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A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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JUNE PRODUCTION PLACED AT 390,000

UNION TRUST CO. OF CELEVELAND SEES TRADE GAINS

Long - Term Outlook Of Business Is Improving

CLEVELAND, June 26.—The long-term outlook of business is improving, says the Union Trust Company, Cleveland, in its current monthly magazine, Trade Winds.

In many respects, says the Cleveland bank, the most encouraging feature with regard to the present situation is actually the extended severity of the business depression, for it gives rise to the belief that by this time certainly the down-swing of the cycle has been reached.

"Last June," says the article in Trade Winds, "with the volume of business headed for a decline, inflation psychology was in full swing in business and in the stock market—a psychology which, as we now see, was utterly unwarranted.

"This June we find pessimism in the saddle, both in the stock market and in business. It may very well be possible that the present optimism is no better grounded in fact than the optimism of a year ago—and that at this very time, when confidence appears at its lowest ebb, we may actually be passing through the opening phase of a long period of increasing business prosperity."

Sharp recessions in activity are noted in the steel industry, in the automobile industry, in building construction and other activities, but despite many discouraging sta-

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GENERAL ELECTRIC SHOWS GAIN IN STOCKHOLDERS

Schenectady, June 26.—The General Electric Company has 88,383 stockholders, an increase of approximately 60 per cent. in the past year, according to figures released by the company. The count was made on June 20, the record date for dividends to be paid in July. In June, 1929, the number of stockholders totaled 55,216.

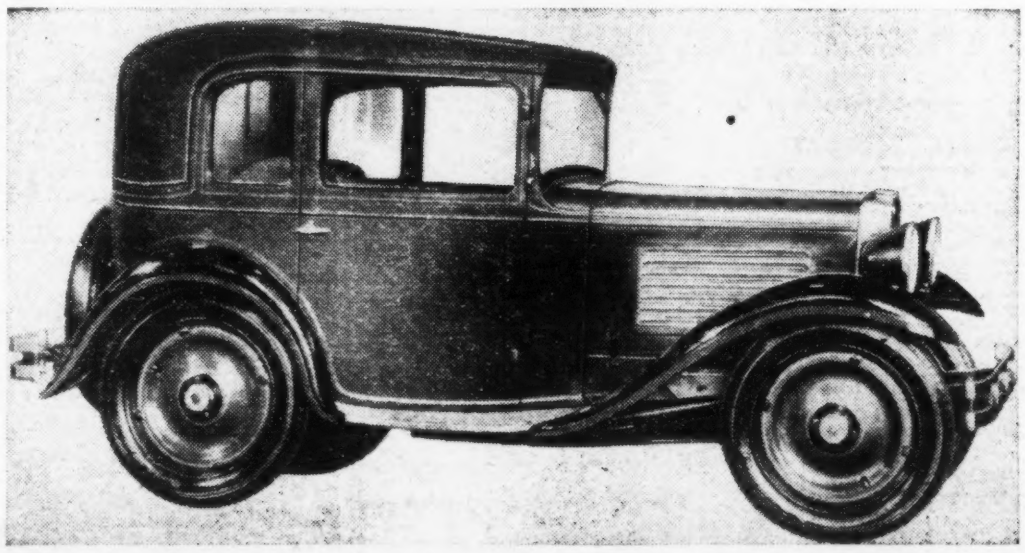
COLLINS & AIKMAN SALES RUN AHEAD OF YEAR AGO

New York, June 26.—Despite reduced automobile production, Collins & Aikman is having one of its best years in the production and sale of Ca-vel pile fabrics used in automotive upholstery, it was announced today by P. J. Torchiana, vice-president and general sales manager of the concern. Sales from January 1 to June 1 in the automotive fabrics were 14 per cent. above sales for the same period in 1929, and 22 per cent. above sales for the same period in 1928.

H. H. FRANKLIN RECOVERS FROM ACCIDENT INJURIES

Syracuse, N. Y., June 26.—H. H. Franklin, president of the H. H. Franklin Manufacturing Company, severely injured in an automobile accident at Columbus, O., several weeks ago, has nearly recovered and is able to be about, driving his own car.

Here Is the American Austin



THIS is the first picture of the American bantam Austin car which is being announced by the American Austin Car Company of Detroit. Full technical details with illustrations will appear in the Automotive Daily News tomorrow

Philadelphia Car Stocks At Levels Below Normal

PHILADELPHIA, June 26.—**Throughout the Philadelphia zone, including the city, stocks of both new and used cars on hand are generally low, and there are few exceptions to this desirable condition. The great majority of distributors assert that their own retail departments are in good shape as to the number of exchange cars left at this time, while reports from dealers show that most of them now have on their floors fewer than the normal quantity of used cars and considerably less than a year ago.**

The same distributors say that their own stocks of new cars are no more than of convenient size for quick handling, as orders come in and that their dealers run the range of from close to short up to normal, the number of these models on hand in most cases being fewer in number than in June, 1929. One dealer reports being sold out of cars.

There has been improvement over last year in the handling of used cars, for stocks are lower, although in general there are fewer straight deals than at the corresponding period in 1929.

It is reported that the average quantity of new cars in the hands of distributors at this time does not exceed 125, while the average for the dealers is 18. While some do not agree with these figures, a survey indicates that they cannot be far out of the way.

Following are reports on new and used car stocks from both distributors and dealers, serving to show what supplies of new and used automobiles are on hand:—

Cadillac Motor Car Company—Don Aarons, division manager, says that whereas last year the company did not get cars out of storage until August 15, it has been removing them for a considerable period and already has two empty floors. New car stock, he adds, is not more than 60 per cent. of last year's at this time for the zone and the same figures would apply to used car stock.

Teefy-Seltz Company, Inc., Auburn and Cord Distributors—Adolph Seltz reports new car stocks below normal for the territory, with their biggest dealer having a minimum quantity of five models on the floor today. The distributor's own retail department has but fourteen used cars at this time, which is under normal, while the company's dealers have low used car stocks, and one dealer reports none left. No dealer in the organization, except some out in the state, has more new cars than he ought to have, according to Mr. Seltz, and none of them is buying in advance of orders.

Gomery-Schwartz Motor Car Company, Hudson and Essex—G. E. Oller of the firm states that new car stocks on hand at the distributors and among the dealers are below the normal quantity. Used cars in the distributors' own department are exceptionally few in number. In the territory there are now 3,222 used cars divided among 378 dealers, and this includes the Philadelphia stock.

Roberts Nash Motors Company—

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STANDARDS BUREAU OFFERS FORMULA FOR MOTOR VEHICLE TAX

Washington, June 26.—Charles F. Marvin, Jr., mechanical engineer of the United States Bureau of Standards, has worked out a simple method of distributing equitably the total motor-vehicle tax levy as determined by the state.

Mr. Marvin's method apportions among the various classes of vehicles and among the units within a class tax payments corresponding as nearly as possible to the amount and character of the use of the public streets and highways by each vehicle. His system also includes a workable basis for levying fuel tax and registration fees.

Mr. Marvin uses three formulas in which he substitutes certain values which have been arrived at after careful investigation of relative costs to the state resulting from operation of average vehicles of different

(Continued on Page 2)

TOTAL FOR SIX MONTHS 2,369,200, DECLINE OF 30%

Ford Output for This Month Is Estimated At 175,000

NEW YORK, June 26.—Production of motor vehicles in the United States in June will approximate 390,000, according to an estimate prepared by the Automotive Daily News from the most reliable information available at this time.

that the output may prove to be

Such an output would compare with 441,000 in May and with 567,424 in the corresponding month of last year, a decline of slightly more than 10 per cent. from the preceding month and about 31 per cent. from May, 1929. This would be about the normal seasonal falling off in June from May.

The 31 per cent. decline from a year ago would compare with a drop of 30 per cent. for the first five months of the year, the rate of decline ranging around that figure during all of the earlier months. It is possible, of course, that the output will prove to be closer to 400,000 than 390,000, in which case the precentage of falling off would be only about 30 per cent. instead of 31.

It is estimated that Ford will account for about 175,000 of the June total, leaving 315,000 to 325,000 for the rest of the industry. This Ford output would compare with 191,000 in May.

An output of 390,000 in June would bring the total for the first six months of 1930 to 2,369,201, as compared with 3,413,804 in the corresponding period of last year, a decline of 30 per cent.

Production at the present time is running about 15 per cent. below the level for the corresponding period of 1928, which is a substantially larger decline from two years ago than has prevailed during the earlier months of the year. This may be explained, however, largely by the fact that in 1928 Ford was just getting back into normal pro-

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Expect Parker Bus Bill to Fail Despite Couzens' Fight

Washington, June 26.—A filibuster to check a filibuster against the passage of the bill to regulate interstate motor bus transportation engaged in by Senator Couzens (Rep., Mich.) was checked yesterday by a vote of 30 to 27 whereby the senate substituted therefor the deficiency appropriation bill.

In retaliation therefor the Michigan senator caused to fail a unanimous consent proposal for a vote at 4 p. m. today upon that part of the deficiency bill that provides for the beginning of work on Boulder Canyon dam.

Senator Couzens fought against what he asserted to be efforts to displace the bus bill with the deficiency appropriation bill to the end that the former may not be acted upon before adjournment. He charged the opposition to the bus bill with filibustering, and asserted that he did not propose to permit that to succeed.

Senator Couzens argued that with a vote on the deficiency bill, followed by action on the veterans' legislation, there would be no incentive to continuing the present session of Congress. He declared that if anything was to hang fire it might as well be the deficiency bill with respect to which there is opposition on the part of the two Arizona senators because of the provision dealing with the Boulder Canyon Dam.

It had been proposed that an

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STANDARDS BUREAU OFFERS FORMULA FOR MOTOR VEHICLE TAX

(Continued from Page 1)

gross weights and which allow for the relative economic and social desirability of the different weights of vehicles as units of transportation. The first formula is for the total of motor vehicle tax payments. Subtraction of the annual proceeds of the fuel tax gives the amount to be collected in registration fees.

The total tax on a vehicle, he holds, should depend on three major factors entering into the use of the highways—the weight imposed upon the road surface by the vehicle and its load, the number of miles it travels during the taxable period and the type of tire with which the vehicle is equipped. So important in the matter of taxation is the gross weight of the loaded vehicle that it is a primary factor in Mr. Marvin's formulas. His formulas provide a gradual and consistent variation in tax throughout the whole range of gross weights.

As the actual gross weight of a vehicle varies with the number of passengers or the quantity of goods carried and also depends on the character of the equipment and the amount of fuel, oil and water in the tanks, it is necessary for the state to designate what the taxable gross weight of any given vehicle will be.

To distribute taxes fairly, not only according to gross weight, but also according to miles traveled, it is most equitable, Mr. Marvin believes, to collect as much of the tax as is reasonable in the form of a fuel tax.

Solid tires are considered more destructive to roads than pneumatics on a similar vehicle. Consequently, a somewhat higher tax for solid tires is justified, Mr. Marvin believes. These tires have little effect on fuel consumption and the difference must be made up in the registration fees. For registration fees he considers most equitable a formula which gives a gradually increasing difference in tax for the heavier vehicles, and suggests a higher value for the algebraic expression representing solid tires than for pneumatic.

According to the registration fee formula, the equation determines small fees for light cars, which are taxed equitably by the fuel tax alone, and is chiefly effective for the heavier trucks and buses for which the fuel tax is inadequate.

Mr. Marvin's method of tax distribution permits a wide range of tax schedules to take care of the various classes of vehicles and is readily adaptable to the requirements of any state. The formulas may be modified to suit changing conditions, and without alteration of the basic method of rating vehicles or the system of collecting fees. He believes that for some years to come the three factors—weight, miles traveled and tire type—may be used as the basis for rating all vehicles and for determining fees in all states. However, it will not be reasonable to use the same amounts or ranges of fees everywhere and for all time. Costs of highway construction, the types of road and the total mileages of roads, vary from state to state and from time to time.

The fuel tax possesses several advantages over registration fees, chief of which is that it automatically taxes a vehicle directly in proportion to the number of miles traveled. It brings more revenue per mile from the heavy truck than it does from the light passenger car and taxes the fully loaded vehicle more than the empty one. The vehicle that is overweight, overpowered and which has an inefficient engine and improperly adjusted carburetor, or excessive friction in any of its parts, pays a higher tax per mile than the well designed and well cared for vehicle of the same capacity.

EXPECT PARKER BUS BILL WILL FAIL

(Continued from Page 1)

agreement for a vote on the deficiency bill be entered into with the provision that each of the two Arizona senators might have two hours within which to debate the Boulder Dam feature. Couzens opposed this on the theory that his bill would be jockeyed out of position, although it was called to hi. .ention that under the operation of the cloture rule the deficiency bill would automatically come before the Senate and the bus bill would be sidetracked in that way.

Senator Couzens apparently was manuvering to put the responsibility for displacing the bus bill directly upon the group voting on the motion carrying out this program.

"Failure to pass this legislation is in the interest of the railroads," he charged. "Those who are opposing this legislation are those who are standing for the interest of the railroads. They are backing up the railroads in securing monopolies in motor transportation all over the United States. The railroads because of their wealth, power and influence are able to buy up what lines they choose or start their own lines, and in so doing run out of business the weaker or less competent bus lines."

Senator Dill (Dem., Wash.) challenged Couzens' assertion that all the railroads are against the bill in its present form since it will prevent railroad monopolies in bus transportation. Couzens reiterated his statement in reply.

It was asserted by Senator Pittman (Dem., Nev.) that the House would not accept the bill in the form it is proposed to be passed by the Senate, adding that it was doubtful if the House committee members would even seek having it sent to conference before adjournment.

PRODUCTION IN JUNE PLACED AT 390,000

(Continued from Page 1)

duction with the Model A and the fact that the output of that company continued at abnormally high levels through the summer and later months.

In contrast to the situation earlier in the year, the production of the larger commercial car producers is at lower levels in contrast to a year ago than that of the smaller producers.

Following is the trend of combined passenger car and truck production in the United States and Canada during the first half of 1930, with June estimated, as compared with the corresponding period of last year:—

	1930	1929	% Loss
January ..	285,762	422,538	32
February .	362,488	497,705	26
March ...	422,043	626,076	32
April	467,092	663,811	29
May	441,816	636,250	30
June	*390,000	567,424	*31
Totals ..	2,369,201	3,413,804	30

*Estimated.

It is apparent that the peak of automobile production in 1930 has passed, although there is strong hope in the industry that the decline in the last half of the year from the 1929 level will be substantially smaller than in the first half. There is real justification for this expectation, despite the uncertain business outlook. While the rate of falling off may hold to the 30 per cent. rate of the first half of the year during July and August, it is almost certain that the decline will be cut 15 or 20 per cent. in September and to considerably below that in the final quarter of the year.

The year started with a falling off in January of 32 per cent. in automobile production from the corresponding month of last year. The 285,762 output in that month, however, represented a large gain over the low mark reached in December, and there was a steady gain in production through April, which will apparently stand as the peak month this year, as was the case in 1929.

The output jumped to 362,488 in February, which was only 26 per cent. below the corresponding period of last year, but in March the decline was again 32 per cent., with an output of 422,043. In April, the peak month, the output was 467,092, as against 663,811 a year ago, off 29 per cent. The decline in May was 30 per cent.

It will be noted that an output of 500,000 units for a single month has not been reached this year. This, however, is not a sub-normal condition, as in 1928, the second largest year in the history of the industry, the production did not reach 500,000 in any one month.

The abnormal conditions of the first half of 1929 are evident when it is considered that the output was above 600,000 for three consecutive months and remained above 500,000 in the two months following those, this record five-month period extending from March to July, inclusive.

MAY CANADIAN EXPORTS INCREASE OVER APRIL

Montreal, Canada, June 26.—Exports of automobiles moved up sharply in May. The value of passenger automobile shipments was $2,067,000, as against $976,000 in April. Freight automobiles advanced from $372,000 to $1,562,000, according to Dominion Bureau Statistics.

PHILADELPHIA USED, NEW CAR STOCKS LOW

(Continued from Page 1)

W. P. Berrian, vice-president, says the new car stock is about 50 per cent. of the normal quantity, and that as for used cars, while the company had a good sale this spring, it is doing more trading. The straight sale buyer, he adds, is not in the market to the extent he was a year ago. At that time one in every four deals was a straight sale, whereas now only 7 per cent. of sales is on a straight or no-trade-in basis.

Thornton-Fuller Automobile Company, Dodge Distributors—Mr. Graham reports that the company is away below last year on new cars for the period. The house has 150 new models on hand and low new car stocks are typical of the territory at this time. There is, however, a considerable quantity of used cars on hand, as the company is trading actively and exchange cars are coming in faster than they can be turned over at this time.

Wilkie Buick Company—Sale Manager Davis says that the new car stock is in good shape, and that the house has only from twenty to twenty-five used cars on hand, which is a low number.

Alvin A. Swenson, Ford Cars—Mr. Swenson says he has sold about 500 new cars and trucks since the first of the year, and in that period took in exchange 292 units. He has sold 400 used cars and trucks thus far this year and now has on hand only forty used cars in stock, of which only fifteen are high priced models. New car stock at present is comfortably low.

Foley Chevrolet Co., Inc.—This company reports through Mr. Trask that the new car stock is normal and that it has on hand a total of 125 cars, both new and used, sixty-five of which are used cars.

SEES SOUTH AFRICA AS AMERICAN CAR MARKET

New York, June 26.—L. H. Oates of Bloemfontein, South Africa, a former president of the South African Motor Traders Association and one of the largest and best known distributors of motor vehicles in that country, was among recent callers at the National Automobile Chamber of Commerce.

Mr. Oates reported that the present disturbed economic conditions in South Africa are caused, as in most of the rest of the world, by uncertainty as to when the bottom will actually be reached in the price of primary products such as wool, grain, etc.

The motor industry will be one of the first to feel and profit by a return of activity and Mr. Oates has every confidence in the future of South Africa as a market for American motor vehicles.

SWITZERLAND TO BOYCOTT AMERICAN AUTOMOBILES

Washington, June 26.—Automobiles are to be the first American products to be boycotted by Switzerland in protest against the new tariff bill, according to advices reaching Washington. The boycott will continue until the country joins France and other European countries in formal protest against the tariff, it is said.

H. B. HULL, BALTIMORE CAR DEALER, IS DEAD

Baltimore, June 26.—Harter B. Hull, automobile dealer and first vice-president of the National Automobile Dealers' Association, died here yesterday. He was educated at the University of Illinois and the University of Iowa and started in the automobile business in Waterloo, Ia., in 1921. Later he organized the Harter B. Hull Company of Memphis. He came to Baltimore in 1926 and organized the company which bears his name. He was an officer in the Automobile Trade Association of Baltimore.

G. F. MOLLOY, PIONEER OF TRUCK DEVELOPMENT, DEAD

New York, June 26.—George F. Molloy, a native of this city and active for many years in the automobile industry, died Tuesday evening at St. Catherine's Hospital, Brooklyn. Mr. Molloy was the first to drive an automobile truck completely across the United States and did valuable work in the development of automobile transportation. By reason of his experience he was employed by the United States in the punitive expedition against Villa in Mexico some years ago, and he also served in the World War.

SPARKS from DETROIT

New Super Highways for Detroit

* * *

The Packard Inheritance Tax Case

* * *

Painting the Town Yellow

Fred Kingsbury—Detroit Editor

A PLAN has been presented to the Board of Supervisors for extending, within the city of Detroit, seventy miles of 204 foot super-highways, at a cost of $100,000,000 for right-of-way alone. This plan has been worked out by the Wayne County Road Commission.

Detroit has been building super-highways for some time past. It has been necessary to carry forward this kind of highway construction due to the many motor cars owned and operated in Detroit and vicinity.

The people of southern Michigan are imbued with the super-highway principle, because it has worked out so well. People must have plenty of space in which to operate their motor cars, and this city and county has never been backward in road construction.

* * *

THE State of Michigan stands to lose several million dollars, according to Emerson R. Boyles, deputy attorney-general, through a decision of Judge Arthur J. Tuttle, of the Federal District Court in this city, in the Packard inheritance tax case.

The late James W. Packard, one of the founders of the Packard Motor Car Company, died at his residence in New York State, March 20, 1928. Eight days prior to his death a New York law became effective providing that estates in any other state shall not be obliged to pay an inheritance tax on stock in New York corporations if the other states pass a reciprocal law. Michigan did not have such a reciprocal law until a year ago.

The Packard estate included 80,000 shares of stock in the Packard Motor Car Company, a Michigan corporation, and Michigan took steps to collect a tax of about $350,000. Immediately a suit to enjoin collection was filed in Federal Court in Detroit by Marion H. Fisher of New York city and the Union Trust Company of Cleveland, administrators of the estate.

Although several questions were raised, Judge Tuttle ruled only on one. He held the Michigan reciprocal law was retroactive, and that therefore the state of Michigan could collect no tax on the stock of its corporations held by residents in other states, even though death occurred before the Michigan law became effective. However, the state plans to appeal to the United States Supreme Court.

* * *

The Detroit Police Department is a good paint slinger. It has just developed that yellow paint to the extent of 120 gallons a week is required to mark traffic zones on the streets of the city.

* * *

We ran across LeRoy Pelletier, advertising and publicity man, the other day. Mr. Pelletier is now interested in real estate and has a beautiful section near his own home at Orchard Lake, where he is operating. He is just as full of youth and enthusiasm as ever.

* * *

Many automobile men from Detroit are going north to fish. These expeditions have been made possible by some of the plants closing for inventory.

UNION TRUST CO. SEES BUSINESS ON UPGRADE

(Continued from Page 1)

tistics, some indicators, it is declared, are definitely pointing toward trade recovery. The first of these is the employment situation.

"Last autumn," says the bank's review, "ther.. ..s an excess supply of mercha.. ..and materials not only in the ..ds of a number of manufacturers, distributors and retailers, but also in the hands of the public. Therefore, when the depression came people contrived for some months to get along with what they had at home. But these things must wear out. The old suit, the old car, the old radio, cannot last forever. In short, the public itself will eventually approach the same low inventory condition as obtains in the case of the retailer, distributor and manufacturer, with the result that the necessity of replacing worn-out merchandise in the home is bringing more people into the stores."

The encouraging side of the automobile picture is the fact that production this year has been kept strictly within the limits of public demand. Dealers' stocks of both old and new cars are the lowest since the first of the year. Stocks of new cars manufactured but unsold are estimated equivalent to only one week's production. Therefore, the slightest turn in consumer demand may be reflected immediately in increased production schedules.

In the construction industry public works and utility construction is lessening the severity of the recession and low money rates are expected to stimulate eventually an increase in general building activity.

"If more people get back onto the pay roll, there will be still more buying," the bank's article says, "and as buying increases still more people will get back on the pay rolls. And so the great machine of business will gradually gather momentum as the weeks go on."

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Ford and Chevrolet Sales Holding Up Well

Reports From Seattle, Denver and Chicago Indicate June Business Will Exceed Same Month Last Year.

SEATTLE, Wash., June 26.—Ford and Chevrolet sales are holding up well here, being about equal to the previous week. The sales totals as shown by the records compiled by the Motor List Company were 127 Ford new car registrations and twenty-seven Chevrolet. However, this is not as true a barometer of sales as is usually the case, as the half-year license reduction is holding back some registrations.

July 1 the license cost is cut in two. Some enterprising dealers are not letting this stop a sale, though, but are paying the few dollars difference in the fee.

Used car sales have been very good with the touring season here. Some dealers report more than one for one, compared with the new deals. Used car stocks are in splendid shape, and some models are so low that dealers are extra anxious to replenish stocks by trade-ins, but of the rikght kind. Our-of-town reports are favorable. Where collections are good, business is good.

William O. McKay, Ford dealer, has been making a drive on used cars. An attractive sign in the window says: "Ford reduced prices here now. McKay used car prices drop with them."

"The past week was a good one for us," declared Sales Manager Gibbons. "The license question is again to the front. What this state needs is a flat fee of $3 per year like California has. Motorists are in favor of such a fee, with the gas tax being considered a true tax on road usage." Fees at present are $13.85 for Ford roadster up to $15.65 for four-door Ford sedan. Fee is based on weight. The old Model T license fee is $10.45.

C. H. Wells, Inc., reports improvement the past week, with a nice trend toward the "Six." A special sales idea is being worked out at this time. A two-quart jar is placed outside the car, filled with any gasoline the prospective buyer wants, and connected with the carburetor. The main tank gas supply is disconnected. A run under average traffic conditions is made until the gas is all used up. Tests show economy of twenty miles to twenty-one miles per gallon. A placard on the demonstration car says: "Seeing is believing. The new Chevrolet is the most economical car."

"This has resulted in our prospect business being particularly improved, and more interest is being shown this week by more calling on our floor," declared Mr. Wells. "Truck business is also up, this being a healthy indication of business conditions improving."

Used car stock is low, there being less than 100 on hand. Good sales reported the past week.

Other Chevrolet and Ford dealers report fair business the past week, with the outlook satisfactory.

Sales of New, Used ... Cars Brisk in Denver

DENVER, June 26.—For the week ended June 26 Ford and Chevrolet dealers of Denver as a group are proceeding at a normal pace for this time of year, with sales of used and new cars both brisk.

In very few cases are dealers of this city complaining of being overstocked with used cars; in fact, several say that good used cars are short on the market.

Officials of the Denver branch of the Chevrolet Motor Company declare that business as a whole is showing up better than 12 per cent. greater than this period of last year, with the most favorable reaction toward their product that they have ever known.

During the last ten-day period for which figures are available ninety-four cars have been sold in the Denver area. The used-car situation is declared to be the best in several months, with only a seven-teen-day supply available in this city. Chevrolet dealers are now said to be making more actual profit than for a long time.

Business with the Rogers-Platt Chevrolet Company is fair, with the major efforts of the company at this time being spent on selling used cars. Inventory of used cars has been reduced by $4,500 during the past few weeks.

At present the company has on hand 43 used units, with sales of 12 during the week. The stock is slightly below normal now. Fifteen new cars have been sold during the week, which, company officials say, is about normal.

Fred MacKay, Ford dealer, has on hand at this time 20 used units, of which exactly half are Fords. Sales of both new and used cars are about the same as for last week, with the sales of new Fords showing a gradual pick-up.

Viner Chevrolet, Inc., is still bending all of its efforts toward reduction of its used car stock, and so far for the month has disposed of 136 used units, with prospects for a June total of 200 or better. During the last week, 14 used cars have been sold, and 15 new cars. Used units on hand now total 67, which is nearly at the figure desired.

After the used car campaign is ended, within the next few days, the company will begin to concentrate on new cars sales, which have been good despite the fact that used cars are being pushed.

According to F. J. Wienecke, sales manager for the Gates Wimbush Motor Company, Ford dealer, the company now has on hand forty used units, with business good during the week, and higher priced used cars selling easier. This stock of used cars is somewhat shorter than is really necessary, with the situation in excellent shape.

During the week ten used cars have been sold, and a total of seventeen new cars. Business as a whole is not quite up to the May figure in units, but will probably show about the same in money.

Business with the Baptie Chevrolet Company is meeting the company's sales projection for the year, and the used car sales and stock on hand are very satisfactory to the company heads.

I. H. Eppinger, sales manager, says that in his opinion the used car situation with his company is perhaps the best in the state, with no problem apparently coming up.

The Stovall-Hilliker Motor Company, Ford dealer, is averaging sales of two new cars a day, with fourteen sold in the past week. Used units on hand are now eighteen, which is ten to fifteen below what is considered a good figure. A total of six used units have been sold in the week, and company heads say that they have no kick whatever coming, as far as business is concerned.

Dealers in Chicago Find Sales Steady

CHICAGO, June 26.—Sales by Ford and Chevrolet dealers continue to hold up steadily here in a display of unmistakable strength, according to composite reports from those handling both makes of cars. To make the situation even more favorable, these dealers are finding no difficulty in moving their supplies of used cars as well as new, a fact which they attribute to having taken automobiles in trade at low enough figures to make them quickly salable.

As a result, these dealers find themselves with no surplus of either new or used cars. The consistency with which orders have poured in from buyers, incidentally, convinces them that the demand will continue at a brisk rate throughout the summer.

Chevrolet retail sales here spurted considerably in the second ten days of the month, as compared with the first ten days, the average gain amounting to 15 per cent. The records being made since the advent of 1930 are said by dealers in Chicago to have been pleasing to factory officials. The increases in new car sales during the period of June 10 to 20 naturally meant more than the usual number of new cars taken in trade, a condition which found the Chevrolet factory forces ready. To prevent used car stocks from piling up among dealers an advertising campaign was launched. In the advertisemets used Chevrolets were featured and the drive brought entirely satisfactory results in reducing inventory of all makes of used cars in dealer establishments.

Ford dealers likewise reported sales of new and used cars in the month's second ten-day period as showing improvement even over business in the first ten days of June. Despite the heavy production schedule at the local branch serving the so-called Chicago territory, stocks of new cars have no chance to accumulate in dealers' hands. The various agencies have been successful in their efforts to keep used automobiles moving and inventories of both classes are in excellent shape.

Because of the national Ford truck week participated in by Chicago dealers, they divided their efforts somewhat between cars and trucks during part of the second ten-day period of the month. Although several of the agencies reported a slight decline in passenger car sales while truck week was being staged, the total revealed a small increase in car business and the gains in truck sales were decidedly noticeable.

Ford and Chevrolet forces have pursued rather a contrasting policy here in the matter of adding dealers. On the average of every two or three weeks, Ford has for some time expanded its dealer organization locally, the newest agency just announced being Meyers & McCarthy at 4940 North Western Ave. Both of the partners in this firm are former Ford and Lincoln men, Meyers having been sales manager of Hesser & Soden in Rogers Park, while McCarthy was identified with the Lincoln department of L. W. Shanesy, one of the large north side dealers.

On the other hand, Chevrolet has made no bid for new dealers, feeling instead that this make of car is represented in the city at enough strategically located points. The sole objective of the Chevrolet wholesale men has been to work closely with dealers now in the fold, giving them every aid in selling new and used cars, keeping inventories as low as possible and operating in a profitable manner. Few if any changes have been made in Chevrolet dealers here this year, a fact that is attributed to work done in former years in strengthening the retail selling organization, getting the best dealers obtainable and training them intensively in the Chevrolet methods of sales, service and accounting.

Personal Briefs

Newark, N. J., June 26—Harry Curtis, former sales manager of the used truck department of the local Pierce-Arrow dealership, has joined the Brooks & Kingsbury organization, Kelly Springfield distributor, according to an announcement made by Charles Kingsbury.

Birmingham, Ala., June 26.—Harvey F. Chafin has been appointed manager of the Auburn Sales Company here, local distributor for Auburn and Cord.

Newark, N. J., June 26.—Max Stadfield, president of the U. S. Motor Sales Company, Durant distributor, has just returned to his desk following an operation which kept him confined to his home for two weeks.

Duluth, Minn., June 26.—R. I. Brucato has been appointed manager of the used automobile department of the Northern Motor Company, Oldsmobile and Viking dealer here. Mr. Brucato formerly was with the Duluth Pioneer Automobile Company, Chrysler dealer, as manager of the used automobile department.

Newark, N. J., June 26.—Wallace S. Hill has resigned from Nash-Newark, Inc., to enter another field. Hill is well known in this city. He was a racing driving in the early days and later connected as district manager with Locomobile, Packard and Federal Truck. For the last eight years he has been connected with automobile selling in Essex county of Rickenbacker, Oldsmobile and Nash cars.

LOUISVILLE FORD PLANT INSPECTED BY 700 MEN

Louisville, Ky., June 26.—Seven hundred business and professional men of this city, including the members of the Louisville Board of Trade, visited the Ford Motor Company plant here, inspecting the entire works, as guests of the Kentucky & Indiana Terminal Railroad, which arranged a trip by special train to visit a number of industrial plants about the city, chiefly on its own lines. The special carried the visitors to the site of the new $400,000 Gulf Refining Company's riverside plant, past the new Chevrolet parts depot, Corhart Refractories Company plant and many others.

DEALER DOINGS

Syracuse, N. Y., June 26.—The Syracuse Motor Car Company, 312 Genessee St., Auburn-Cord distributor in this territory, following the trend of the times in motor car equipment, has added a new idea to the selling of used cars, by offering to install absolutely free of charge a Crosley Roamio set, listed, complete, at $131, in used cars bought from the list offered in their ads in Syracuse papers. The offers holds good for the balance of June. Their compensation, the firm states, will be the boosts given them by purchasers of used cars.

Fargo, N. D., June 26.—Sixteen Durant dealers in North Dakota and Minnesota will operate under the new Durant distributor here, the McDougall Motor Sales of 623 2d Ave. North.

Trenton, N. J., June 26.—Harry S. Eldridge with sales and service headquarters at 208 North Willow St., this city, has been appointed Auburn and Cord dealer.

Jackson, Miss., June 26.—Announcement of the appointment of the Sellers Motor Company, Inc., here as distribtuor of the Oldsmobile Six and Viking Eight for the major portion of Mississippi is made by J. T. Collins, general sales manager of Olds Motor Works. The territory includes all of the state except the extreme northern and southern counties.

Joliet, Ill., June 26.—Award of the Franklin franchise for this city has been made to the W. H. Lauer Motor Company, owned and operated by W. H. Lauer at 615 Van Buren St.

Meriden, Conn., June 26.—Walter J. Connor has been named Auburn-Cord dealer for this vicinity and established sales and service quarters at 35 Hanover Street. It is Mr. Connor's first venture in the automobile business.

Jamestown, N. Y., June 26.—The Larson Motor Company has been organized here by Ivar S. and Gust A. Larson. The new concern has acquired a lease on the building at 42 Taylor St., formerly occupied as a service station by the Third and Lafayette Street Garage, Hudson-Essex distributor, and will equip it as a sales and service station for Ford cars and trucks.

CHEVROLET USED CAR SALES UP IN FRISCO

San Francisco, Cal., June 26 (UTPS).—Retail dealers of Chevrolet in San Francisco for the week ended June 21 are making a bit under 12 per cent. of the total sales of all cars—in fact, this seems to be the gait for the month. Across the bay in Oakland, however, Chevrolet dealers are marking up a 16 per cent. volume for the week—and for the month—while for Alameda county as a whole, which includes the cities of Alameda and Berkeley, the percentage of sales of all cars is 17 per cent. Chevrolets.

A healthy sale of used cars is also reported all through the San Francisco - Oakland territory, keeping used car stocks well down.

CHANGE IN DEALERSHIP

Lexington, Tenn., June 26.—The Porter-Chevrolet Company, local Chevrolet dealership, has become the Odle - Chevrolet Company, James D. Porter selling out to a company of local business men the entire business except ownership of the spacious new building on the north corner of the Public Square, which he leased to the new company. Fred Odle is manager of the new dealership.

SELLS DEALERSHIP

Centralia, Wash., June 26.—L. E. Titus, prominent southwest Washington Ford distributor, has sold the Centralia Motors to Walter Espeland of Pe Ell, Wash. The Centralia plant henceforth will be known as Espeland Motors. H. L. McLane, who managed the plant for Titus, expects to locate elsewhere in an agency of his own. With this exception, Espeland will retain the Titus organization intact. Espeland, who has operated an agency at Pe Ell for the last five years, will personally supervise the plant here. Titus disposed of his Tenine agency a short time ago, but still has agencies at Olympia, Aberdeen and Hoquiam.

FORD DEALERS IN FRISCO LAUNCH "MODEL CONTEST" FOR CHILDREN UNDER 18

San Francisco, Cal., June 26 (UTPS).—Retail Ford dealers of San Francisco and Oakland for the week ended June 21 are hitting along at the rate, respectively, of 44 per cent. and 43 per cent. of the total sales of cars for the week. For the entire northern California territory the percentage of Ford sales approximates 41 per cent. of the total car sales of all kinds. Used Ford sales are also holding up well.

In line with the program to push the sales of the Model A town sedan the San Francisco dealers have launched the scheduled "model contest" for children, believing that by enlisting the interest of the youngsters the best sort of home publicity will be secured, with resultant sales.

The contest began June 23 and ends August 23. It consists of two parts: Class A, for children of 12 years or under, with three prizes, $100, $50 and $25; Class B, for children over 12 and not more than 18 years of age, with similar cash prizes. A silver trophy cup accompanies each cash prize. The competing youngsters must be residents of San Francisco county, and not the children of employees of the Ford Motor Company or of Ford dealers. Entries in the contest are to be models of the Model A Ford, constructed of wood, metal or a combination of both, the size limited to twelve inches in length. Entry blanks, with illustrations of the Ford car and detailed information, are being distributed by every Ford dealer, prizes to be awarded on August 30 by a board of judges composed to newspaper men and a Ford official. Additional prizes of $50, $25 and $10 are offered for the best essays on "Why I Would Like to Own a Model A Ford."

CHEVROLET DEALERS IN BOSTON SEE IMPROVED SALES OF USED CARS

Boston, Mass., June 26.—Stocks of used cars in the hands of Chevrolet dealers in the metropolitan territory here on June 21 were 33 1/3 per cent. greater than they were for the previous ten-day period, according to the ten-day report received by Chevrolet distributing headquarters. They were, however, less by 7 per cent. than a year ago at this time.

Present conditions are considered ideal by the management, however, and the outlook better than during the frst half of the month, when ten days were required to get things moving after the May stagnation. The general situation is considered better than it was in May.

CHEVROLET DEALERS MEET IN NASHVILLE

Nashville, Tenn., June 26 (UTPS).—Chevrolet dealers in the zone here, which includes most of middle Tennessee and a part of southern Kentucky, met in this city June 23-24. F. E. Zorninger, zone manager; F. Vollmer, assistant manager; L. L. Deisale, sales promotion manager, and other members of the General Motors Company and the General Motors Acceptance Corporation, outlined programs and policies for the coming fiscal year. The meetings were held in the Andrew Jackson Hotel, where the General Motors Corporation show films of the development of that sales organization. While in Nashville the dealers signed their contracts with the Chevrolet Motor Company for the coming year.

MATTSON CHEVROLET CO. FORMED AT UNIONTOWN, PA.

Pittsburgh, Pa., June 26.—C. W. Mattson, for the past two years general manager of the B. F. Stout Chevrolet Company here, has purchased the Superior Chevrolet Company at Uniontown, Pa., according to an announcement by officials of the zone office here of the Chevrolet Motor Company. The new firm will be known as the Mattson Chevrolet Company.

GAINS 35% IN SALES

New Haven, Conn., June 26. — Through what is termed intelligent advertising, the Cooley Chevrolet Company, 158 Whalley Ave., to date has sold 35 per cent. more used cars than last year, according to Albert C. Mantilia, manager of the used-car division. The dealership has been careful in its selection of models to be featured in newspaper classified space.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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The Genesis of Problems

IF there is any one thing in the world that the automotive industry has in endless variety it is problems. We have the used car problem, the accident problem, the highway problem, the traffic problem, the tax problem, the dealer problem (we simply cannot limit this to the singular, singular as some of the problems are) and the parking problem, to say nothing of a swarming cloud of minor problemettes.

Not long since the populous city of New York, which has one of the most difficult traffic problems in the world, undertook a new angle of approach to the parking problem. The metropolis, hemmed in east and west by two rivers and with its sky-sweeping buildings housing millions of workers during the day, actually has not the street space to move the motor traffic that is necessary. There is no place to park one-tenth of the cars that owners would like to leave for varying periods. Finally, in desperation, the city authorities forbade parking in various areas, where cars along the curb tended to hinder traffic, which moved but slowly at best.

With true American disregard of law, car owners continued to park along streets in the districts where this was forbidden. Then an ordinance was promulgated permitting the police to tow away cars parked in forbidden areas and assess a $10 fine on owners who came to reclaim their property. It was thought that the $10 fine would cover all expenses, as well as discourage illegal parking. But did it?

Free and independent New Yorkers continued to park in forbidden areas and the police continued to tow away cars and levy $10 fines. And now, after a trial of the plan for several months, it has been found that $149,130 was collected from parkers and that the cost of enforcing the ordinance, counting salaries of policemen assigned to the duty and other expenses, has totaled $238,608. This works out at about $16 per car impounded. Not precisely a lucrative experiment. Now the police are looking for another method of discouraging parking in forbidden territory.

The truth is that the manifold problems that afflict the automotive industry are simply growing pains. This business of automotive transportation has registered the most astonishing growth in industrial history. Twenty-five years ago it was a petty business, smiled at by wise ones as a temporary boom. Today it is the greatest manufacturing industry in existence. There has been no time to solve problems in order. Before the solution of one could be arrived at, two more had sprung up to take its place. We suffer from growing pains and also from an indigestion of problems. Give us time and we shall solve them all, and then what shall we do with our spare time?

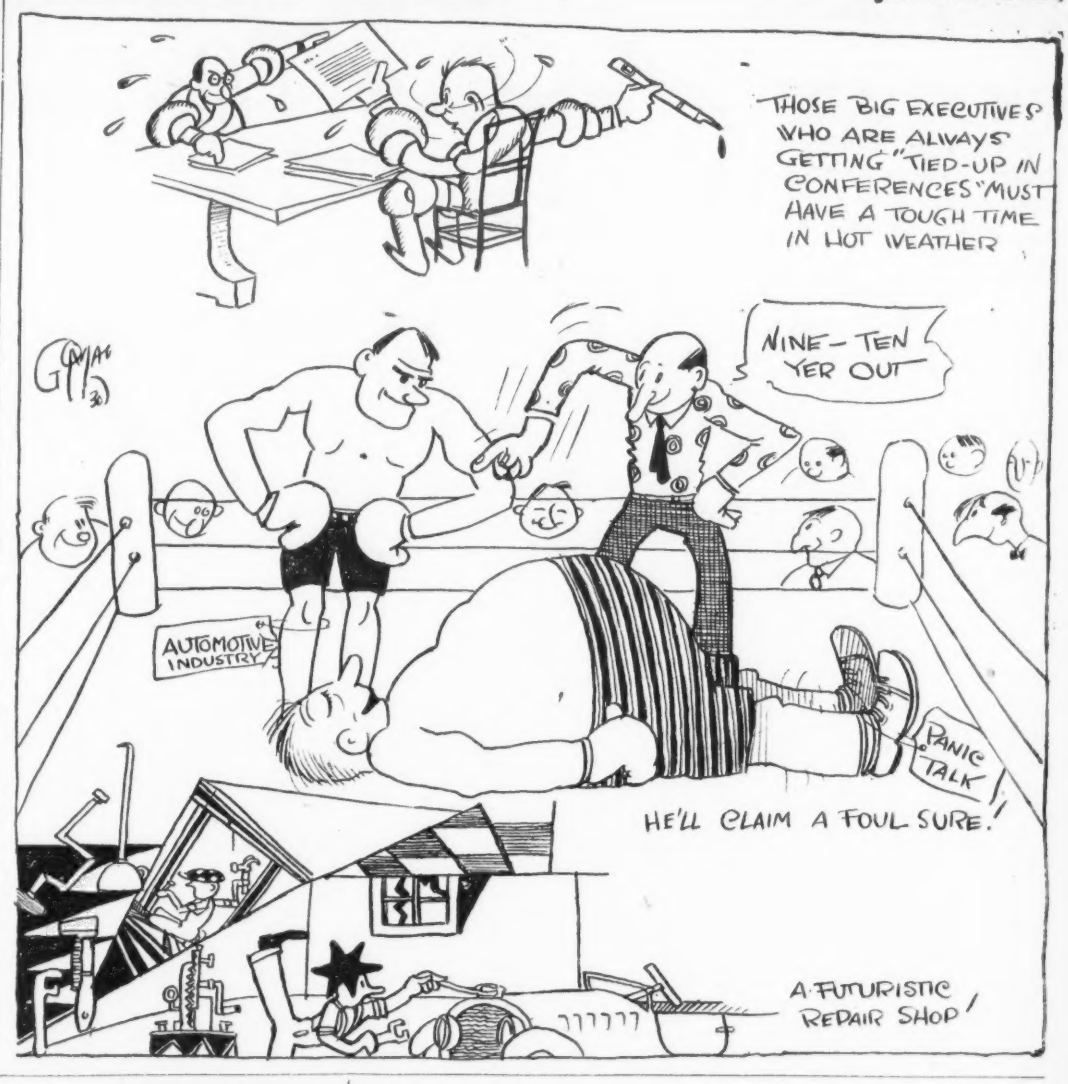
July and August

ECONOMISTS generally have predicted that with the coming of the second half of 1930, we shall begin to feel the upward trend of business. Signs which seldom fail indicate this and in general business it may perhaps hold true. We venture to doubt that the automotive industry will feel the spur until September or perhaps even October.

Over a considerable period of years, examination of monthly sales figures for the industry will disclose that sales generally increase month after month until July and that they then begin a gradual downward tendency that lasts until the first of the next year. The first six months usually account for about 60 per cent. of the year's sales.

There is no reason to think that this somewhat feverish year will differ from its predecessors in showing a diminishing sales total after July. However, this normal sales decrease may take place and there may still be perfectly obvious signs of revival. If, for instance, the decrease is less than the normal decline, we would have good reason for accepting such a condition as a definite sign of revival.

Here and There in the Trade Headlines— By MacConachie


THOSE BIG EXECUTIVES WHO ARE ALWAYS GETTING "TIED-UP IN CONFERENCES" MUST HAVE A TOUGH TIME IN HOT WEATHER
NINE-TEN YER OUT
AUTOMOTIVE INDUSTRY
PANIC TALK!
HE'LL CLAIM A FOUL SURE!
A FUTURISTIC REPAIR SHOP!

Ask Us to Tell You

In presenting this service department, The Automobile Daily News is actuated by the desire to help its readers solve their problems.

In some instances readers may desire information which will require an expenditure of money to secure, and in such cases we shall be glad to get the desired data at the least possible cost, or we shall inform our readers where they may obtain it most economically and expeditiously.

Publication of the Bohannon statement of the new Peerless dealer relations platform, in The Automotive Daily News recently, has aroused widespread comment in this city. Dealers generally have expressed themselves as believing that the Bohannon plan in practical application would solve most of the troubles that the retail automobile trade has struggled against in recent years.

Herbert Buckman, manager of the Cleveland Automobile Manufacturers and Dealers' Association, expressed himself as follows:

"Thanks for the opportunity to look over adavnced proof of the article enunciating the dealer relations platform of Peerless. There can be comment only along one line and that is an expression of gratification for this open and frank statement of factory policy.

"The execution of these pledges should go far toward holding the fine circle of supporters and friends which Peerless has built around itself and for affecting the industry in general in a most favorable manner."

A. J. McGuire of Youngstown, O., wired as follows:

"Have received Peerless dealer platform set forth in your issue of June 24, and would like to take up each of the fourteen points individually, and assure you that the Peerless management is sincere in carrying out this platform to the limit. Having been a Peerless dealer for five years and being perfectly familiar with Peerless policy, I feel that Mr. Bohannon has taken a great forward step in the interest of the dealer organization. The cooperation received by the dealers proves the sincerity of the management in carrying out this platform."

In the Bus Field

Newark, N. J., June 26.—Starting July 1, the Belleville-Lyndhurst Bus Company, now operating buses between the Erie Station at Rutherford and the North Newark Station of the Erie at Newark, will begin operation of a new line from Rutherford to Little Ferry, affording service from Rutherford, Carlstadt, Wood Ridge and Hasbrouck Heights to Teterboro and Little Ferry.

Monroe, La., June 26.—Three buses which this city expects to put into service as part of its transportation facilities were shipped from Detroit last week, according to D. A. Beard, commissioner of finance and utilities. An effort to maintain five cent. fare in all parts of the city after contemplated extensions will be made. As soon as trackage and trolley work are completed on Lee Avenue the city will put buses into operation on Washington and DeSiard Street route.

Brooklyn, N. Y., June 26.—Brooklyn & Queens Transit Corporation plans, early in July, to operate as an experiment, electric buses in place of trolley cars on Cortelyou Road between Coney Island Avenue and Flatbush Avenue. Buses to be used are operated by electric motors supplied with power from overhead wires.

Hoboken, N. J., June 26.—Vice-Chancellor Bigelow, in an opinion handed down here, dismissed the bill of Edward Loomis and others who sought an injunction against the city of Hoboken to restrain the police from interfering with their parking busses at the 14th Street Ferry, Hoboken. Loomis and other independent bus owners on the Hillside line were ordered by the police to desist from parking their buses in front of the ferry house at 14th Street.

Fort Worth, Tex., June 26.—Coordination of bus schedules in West Texas, to provide better connections for feeder and trunk lines, will result from a conference of transportation officials and Chamber of Commerce representatives and members of the State Railroad Commission, which was called at Mineral Wells, near here. More than sixty bus companies were represented. Bus patronage has dropped 25 per cent. in west Texas during the last eight months, although other sections of the state have suffered no such decline in business, and schedules are blamed for the loss.

Nashville, Tenn., June 26.—The Tennessee Railroad and Public Utilities Commission granted the application of J. H. Medlock for a certificate authorizing him to operate a passenger bus service between Paris and Camden over Highway No. 69. Application of the Consolidated Coach Corporation for a certificate authorizing the transportation of passengers between Oneida and Knoxville via Huntsville, Pioneer and Caryville also was granted.

Ironton, O., June 26.—Street car service in Ironton will be abandoned August 1, when motor buses will be substituted, it was decided, when city council unanimously approved an ordinance permitting the Ohio Valley Electric Railway Company to discontinue service on its representation that it was losing $20,000 a year.

COMING EVENTS

JUNE

23-26—San Francisco, Cal. Meeting American Electric Railway Association.
23-27—Atlantic City, N. J. American Society for Testing Materials annual meeting at Chalfonte-Haddon Hall.
26-28—White Sulphur Springs, W. Va. Steel Founders Society summer convention.
29-July 13—Posen, Poland. International Motor and Transport Show.

AUGUST

26-28—Chicago, Ill. Society of Automotive Engineers aeronautic meeting in conjunction with National Air Races.

SEPTEMBER

22-26—Chicago, Ill. American Society for Steel Treating meeting at Stevens Hotel.
29-Oct. 4—Pittsburgh, Pa. National Safety Council Annual Safety Congress.

OCTOBER

2-12—Paris, France. Automobile Salon.
6-11—Washington, D. C. Sixth International Road Congress.
6-11—Washington, D. C. American Roadbuilders' Association Convention.
8- 9—Detroit, Mich. Society of Automotive Engineers production meeting at Book-Cadillac Hotel.
22-24—Pittsburgh, Pa. Society of Automotive Engineers' transportation meeting.
16-25—London, England. Olympia Motor Show.

NOVEMBER

6-16—Berlin, Germany. International Automobile Show.
8-15—Chicago, Ill. Automobile Salon at Drake Hotel.
10-14—Cleveland, O. Motor and Equipment Association Show.
17-21—Cleveland, O. National Standard Parts Association Show.
30-Dec. 6—New York. Automobile Salon at Hotel Commodore.

DECEMBER

6-17—Brussels, Belgium. Automobile Exhibition.

PENNSYLVANIA MAY NEW CAR SALES TOP APRIL

FORD, CHRYSLER EXCEED YEAR AGO

Chevrolet, Buick, Dodge and Plymouth Near 1929 Levels

NEW YORK, June 26.—Continuing to reach new high levels for the year, sales of new passenger cars in Pennsylvania in May amounted to 27,542, as compared with 26,398 in the preceding month, a gain of 4.1 per cent., according to complete returns received by Automotive Daily News.

The feature of the Pennsylvania returns for May was the excellent showing by Ford, Chevrolet, Chrysler, Buick, Dodge and Plymouth in relation to the sales in the corresponding month of last year. Ford and Chrysler showed actual increases over a year ago, while the others came very close to the 1929 totals.

The May, 1930, total compared with 33,152 in the corresponding month of last year, a decline of 16.9 per cent., a rate of decline slightly below that which prevailed in the earlier months of the year.

The May figure brought the total sales in the first five months of the year to 98,104, as against 119,695 in the corresponding period of last year, a falling off of 18 per cent. This compared with a five-month decline of around 22 to 23 per cent. for the entire country.

With sales of 1,047 in May, as against 945 a year ago, and comparing with 888 in April, Chrysler went into third place in Pennsylvania last month, passing Buick, with sales of 999. Dodge was in fifth place, with registrations of 911, as against 1,043 a year ago, and Plymouth, another Chrysler product, was sixth, with 885 sales, as compared with 888 a year ago. De Soto, the other Chrysler car, was in fourteenth place.

For the first five months, Buick retained third place, with 3,765 sales, as against 4,329 in the corresponding period of last year. Essex was fourth, with 3,230, as compared with 8,877, and Chrysler was fifth, with 3,098 registrations, as against 3,376.

Following are the new car registrations in May in Pennsylvania, as compared with the corresponding month of last year and with April, 1930:

	May, 1930	May, 1929	April, 1930
Ford	10,653	8,629	9,905
Chevrolet	5,389	5,956	5,135
Chrysler	1,047	945	888
Buick	999	1,061	1,099
Dodge	911	1,043	811
Plymouth	885	888	596
Essex	725	2,388	766
Pontiac	684	1,405	885
Oldsmobile	665	1,012	640
Nash	541	1,180	546
Studebaker	487	726	546
Graham	484	618	421
Willys	470	*	474
De Soto	425	672	466
Hudson	384	665	403
Hupmobile	351	597	374
Oakland	285	336	296
Packard	276	356	339
Durant	274	445	255
Marquette	248	†	163
Willys-Knight	190	419	154
Whippet	166	1,693	148
Auburn	149	217	161
La Salle	147	217	129
Marmon	143	377	151
Pierce-Arrow	104	145	105
Reo	104	168	122
Cadillac	102	132	96
Franklin	73	186	110
Peerless	53	138	72
Lincoln	35	51	40
Viking	25	55	27
Cord	20	†	16
Windsor	15	14	18
Gardner	14	25	10
Jordan	10	61	16
Miscellaneous	9	125	15
Totals	27,542	33,152	26,398

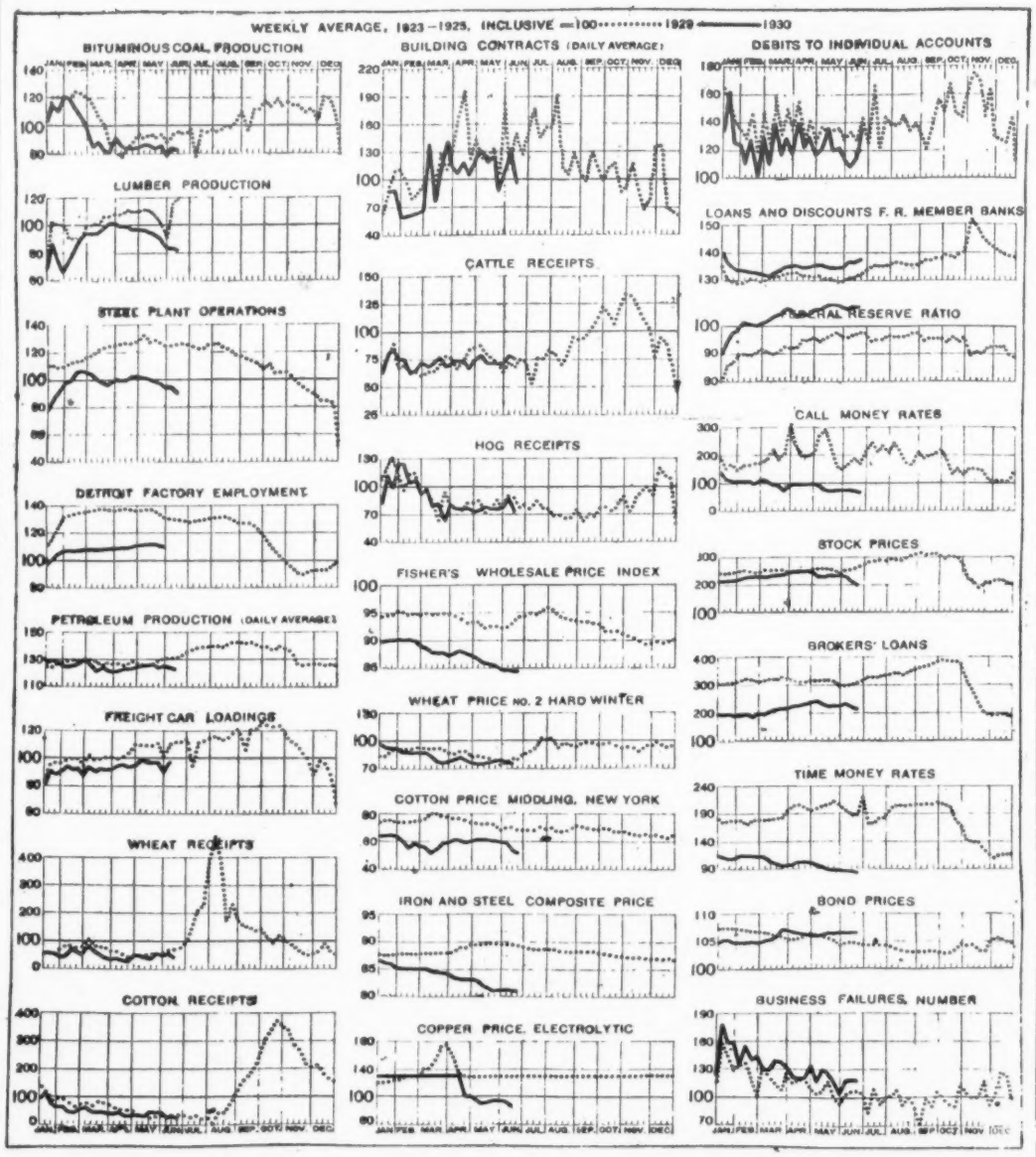
*Then the Whippet Six. †Not on the market at that time.

Following are the new car registrations in Pennsylvania in the first five months of the year, as compared with the corresponding period of last year:

	1930	1929
Ford	37,104	32,126
Chevrolet	19,910	21,647
Buick	3,765	4,329
Essex	3,230	8,877
Chrysler	3,098	3,376
Dodge	2,943	3,895
Pontiac	2,824	4,772
Oldsmobile	2,510	3,604
Plymouth	2,247	2,667
Nash	2,007	4,068
Studebaker	1,861	2,645
De Soto	1,690	2,117
Hudson	1,549	2,488
Graham	1,542	1,971
Willys	1,461	*
Hupp	1,295	1,676
Oakland	1,194	1,856
Packard	1,142	2,040
Durant	1,018	1,462
Whippet	637	6,332
Marquette	613	†
Willys-Knight	602	1,564
Marmon	574	805
Auburn	555	733
La Salle	484	777
Reo	431	677
Franklin	419	580
Pierce-Arrow	367	375
Cadillac	312	442
Peerless	247	532
Lincoln	135	167
Windsor	117	60
Viking	87	57
Cord	64	†
Jordan	62	215
Gardner	54	142
Miscellaneous	696	849
Totals	98,104	119,695

*Then the Whippet Six. †Not on the market.

U. S. Charts Week's Business Progress



Above is reproduced this week's chart of business trends issued yesterday by the Department of Commerce at Washington. These charts are now appearing regularly in Automotive Daily News.

RYMERS TOURS PLANS TO OPEN SERVICE IN CANADA

Montreal, June 26.—Rymer's Tours, Ltd., operators of motor coaches in Liverpool, England, contemplate bringing to Canada one of their latest 1930 coaches for sales demonstration during September or early October. The coach will travel from Montreal to Vancouver by road, traveling via Ottawa, Toronto, Winnipeg and Calgary, and making calls en route. They are contemplating operating from Vancouver next spring onward, on lines similar to their English business. In addition to opening a sales department for the vehicles, they will, after a year of operating, construct a Canadian assembly plant.

MANY NEW BUS LINES CHARTERED IN JERSEY DUE TO NEW ROADS

Trenton, N. J., June 26.—The opening of new state highways making towns in New Jersey more accessible to the big cities has resulted in a tremendous increase in bus transportation. With the greater demand, many new independent bus concerns have been formed.

The latest to secure charters, the location of their headquarters, the amount of capitalization and the directors follow:

Binetti Brothers, 509 10th St., West New York; Louis and Frank Binetti.

Browell Bus Company, Newark, $100,000; Eugene Brown, Helen V. Brown and Catherine Elliott, Irvington.

Elimas Bus Company, Newark, $100,000; William L. Elliott, Catherine Elliott and Charles Maas, Newark.

Black and White Transport Company, Inc., Newark, $100,000; Americao A. Barrassoo and Agnes A. McVey, Newark, and Anne M. Osborne, Orange.

Prospect Transportation Company, Trenton, $125,000; Ida Moss, Edgar T. Cohen, I. Wallace Newman, Trenton.

Dreyer & Heinemann Bus Company, Jersey City; 100 shares, no par; Charles Dreyer, Frank Heinemann and James A. McTague, Jr., Jersey City.

White Way Tours, Inc., Atlantic City, $2,000; Edward G. Walsh, Jeannette C. Walsh and James O'Brien, Atlantic City.

Ace Bus Transportation Corporation, Newark, $100,000; Ben Gordon, Isadore Janofsky and Zelieg Gordon, Bayonne.

OLDS MAKES CHANGES IN ZONE OFFICE PERSONNEL

Detroit, June 26.—Three important changes in Oldsmobile-Viking zone office personnel is announced by J. T. Collins, general sales manager of Olds Motor Works. The announcement affects the St. Louis, Dallas and Atlanta sales zones.

A. C. Williams, for the past two years manager of the St. Louis zone, has been transferred to Dallas as zone manager. Previous to his appointment as manager at St. Louis, Mr. Williams had been connected with the zone office at Lansing, Mich., both as wholesale representative and assistant zone manager.

E. E. McIndoo has been transferred from the managership of the Atlanta zone to succeed Mr. Williams as manager at St. Louis. Mr. McIndoo has been manager at Atlanta for about one year and previously had been sales promotion manager and later assistant zone manager of the Oldsmobile-Viking sales zone at Memphis.

M. C. Willis has been promoted to the position of zone manager at Atlanta, succeeding Mr. McIndoo. Mr. Willis has been connected with the Oldsmobile-Viking zone at Atlanta for six years, the past three years as assistant manager.

OAKLAND NAMES BATHRICK DETROIT ZONE MANAGER

Pontiac, Mich., June 26.—D. U. Bathrick, until recently Detroit zone sales manager for the Oakland Motor Car Company, has been appointed Great Lakes regional manager with headquarters at the factory offices here. Mr. Bathrick succeeds W. M. Chamberlin, resigned. Announcement of the changes in executive sales personnel is made jointly by William A. Blees, vice-president in charge of sales, and M. E. Zetterholm, eastern sales manager.

N. J. TRUCK SALES GAIN OVER 1929

Ford's Increase 570 in Five Months, 177 In May

TRENTON, June 26.—Commercial car registrations in New Jersey in May registered a gain of 41 units, or 2.8 per cent., over the same month last year, while for the five months period were only 109 units, or 1.5 per cent., behind 1929.

Ford's increase in May was 177 units, while Brockway-Indiana had a gain of 24; Diamond T, 2; Federal, 1; Maccar, 3; Mack, 22; Rehberger, 1, and Sterling, 8. Chevrolet's loss was 8 units, and Stewart, Acme and Godfreson were tied with their May, 1929, records.

In the first five months Ford had a gain of 570 units, with a total registration of 3,269. Chevrolet, registering 1,687 units, was 373 behind. Gains were made by Brockway-Indiana, Diamond T, Dodge, Republic, Schacht and Willys-Knight. Acme and Hahn tied their 1929 marks.

The May registrations, compared with the same month last year, showing unit gain or loss follow:—

	1930	1929	Unit Gain or Loss
Acme	1	1	...
Amer. La France	1	5	*4
Autocar	20	25	*5
Brockway-Indiana	41	17	24
Chevrolet	332	440	*8
Day Elder	5	9	*4
Diamond T	7	5	2
Dodge	74	79	*5
Dover	3	...	...
Durant	1	...	...
Fargo	3	9	*6
Federal	15	14	1
Ford	742	565	177
G. M. C.	47	48	*1
Godfredson	1	1	...
International	33	46	*13
Maccar	12	9	3
Mack	68	46	22
Paige	7	...	...
Pontiac	4	6	*2
Rehberger	2	1	1
Relay	1	3	*2
Reo	32	56	*24
Republic	1	2	*1
Rugby	3	5	*2
Schacht	6	...	...
Sterling	18	10	8
Stewart	7	7	...
Studebaker	7	12	*5
Whippet	7	9	*2
White	13	25	*12
Willys-Knight	4	6	*2
Willys-Six	4	...	...
Misc.	12	25	...
Totals	1529	1488	41

*Loss.

The registration for the first five months, compared with the same period last year, showing unit gain or loss, follows:—

	1930	1929	Unit Gain or Loss
Acme	4	4	...
Amer. La France	10	21	*11
Autocar	68	99	*31
Brockway-Indiana	151	100	51
Chevrolet	1687	2060	*373
Day Elder	39	43	*4
Diamond T	75	34	41
Dodge	404	352	52
Dover	16	...	...
Durant	4	...	...
Fargo	30	57	*27
Federal	55	79	*24
Ford	3269	2699	570
Garford	1	14	*13
G. M. C.	208	222	*14
Godfredson	5	7	*2
Hahn	2	2	...
International	180	191	*11
Larrabee	2	4	*2
Maccar	32	39	*7
Mack	292	293	*1
Nash	8	17	*9
Paige	20	...	...
Pierce-Arrow	4	42	*38
Pontiac	10	14	*4
Rehberger	3	8	*5
Relay	5	8	*3
Reo	180	254	*74
Republic	6	4	2
Rugby	14	21	*7
Schacht	15	9	6
Selden	6	8	*2
Sterling	60	39	21
Stewart	23	29	*6
Studebaker	32	55	*23
Whippet	30	77	*47
White	99	136	*37
Willys-Knight	29	20	9
Willys-Six	4	...	...
Miscellaneous	66	196	...
Totals	7148	7257	*109

*Loss.

CLARK

SPEEDING *the* PROGRESS *of the* WORLD

As progress depends on transportation—transportation requires high quality

AXLES

The automotive industry knows these are

CLARK AXLES

CLARK EQUIPMENT COMPANY

Buchanan Michigan

AXLES
Front & Rear
WHEELS
Single or Dual Tire
CAST STEEL HOUSINGS
TRANSMISSIONS

New Dealers Appointed

ARKANSAS

Studebaker — Automobile Sales Company, Helena.
Durant—Browning's Garage, Benton.

CALIFORNIA

Studebaker — Clarksburg Carage, Clarksburg; Howard Steiner, Rio Vista; Paul Gross, Dixon; Pioneer Garage, Livingston; Lee Motor Company, Hayward; General Garage, Fairfield.
Graham-Paige—Wade & Gunnerson, Pasadena.

CANADA

Rio—Bottan, Beebe & Grainger, Ltd., Port Arthur, Ontario.
Graham-Paige — Peppler Brothers, Hanover, Ontario; Maple Motors, Maple, Ontario; Melbourne Salvage Motor Sales, Melbourne, Quebec.

COLORADO

Studebaker—John Buckley, Georgetown.
Graham-Paige — Fromhart Motor Company, Golden.

ILLINOIS

Studebaker—Lundeen Motor Sales, Geneva; C. L. Ramert, Ogden.
Marmon - Roosevelt — Hoyt-Mills Motor Company, Inc., Elmhurst; Buffalo Prairie Garage, Buffalo Prairie.
Graham-Paige—Jacobsma Motor Sales, Dolton; Madison Motor Company, Madison.
Durant—Jacksonville Durant Sales and Service, Jacksonville; Edward J. Hunt Motor Sales, Woodriver; Mikesha Motor Company, Hillsboro.

IOWA

Studebaker—Ira Abbott, Eldon; Gilman Sales Company; Gilman; Verne Hardy, Humboldt.
Graham-Paige—Rummelhart Motor Company, Riverside; Motor Inn, Sheldon.

KENTUCKY

Studebaker—W. J. Musselman, Lexington.
Graham-Paige—Marion Auto Sales Company, Marion.

LOUISIANA

Durant—A. J. Motor Company (distributor), New Orleans; G. N. Gonzales, New Orleans.

MAINE

Studebaker—Potter Brothers' Garage, Woodland; United Tire and Motor Company, Lewiston.
Durant—Thomas Nash Company, Rockland; Harold J. Coombs, Damariscotta Mills.

MASSACHUSETTS

Studebaker—James P. Freeman, Westfield.
Graham-Paige—Chelsea City Garage, Chelsea.
Durant—Steiger's Garage, Southbridge; Kibart's Garage, Campello; L. J. Fontaine, Shelburne Falls; J. A. Sturgess & Co., East Hampton; Comins Garage, North Hadley; Stein's Auto Exchange, Inc., Chicopee; Paltier's Garage, Holyoke.

MICHIGAN

Studebaker—O. C. Ruhle, Coleman.
Graham-Paige—Ambacher Motor Sales, Adrian; Janczur Motor Sales, Dearborn; Range Auto Company, Ironwood.

MINNESOTA

Studebaker — M. M. Jorgenson, Wolverton; Charles C. Alfen, Ada.
Graham-Paige — Andrew Runningen, Ashby; Henry G. Wilshusen, Battle Lake; Harry Gabriel, Brandon; Bristol Brothers, Evansville; Service Garage, Owatonna; Greenbusch Motor Company, Greenbush.
Durant—Schafer's Garage, Watertown.

MISSISSIPPI

Studebaker — Automobile Sales Company, Tunica.

MISSOURI

Studebaker—Joachim Motor Company, Herculaneum.
Marmon-Roosevelt — Linck Service Station, St. Louis.

MONTANA

Studebaker — Al Hanson, Baker; Steinsby & Crawford, Great Falls.
Durant—Suhr Motor Company, Havre.

NEBRASKA

Studebaker—N. F. Hall, Stockville; Ben R. Henry, Pawnee City.
Graham-Paige — Ed Tamisiea, Craig; Thomas Implement Company, Grant.

NEVADA

Marmon-Roosevelt — S. Peterson (distributor), Sparks.

NEW JERSEY

Studebaker—Commander Motors, Inc., Paterson.
Durant—Meeker's Garage, Port Morris.

NEW MEXICO

Studebaker—A. C. Cox, Silver City.

NEW YORK

Studebaker—Eaton & Garling, Ballston Spa; Armys Old Forge Garage, Old Forge; Van Buren Motors, Watervliet.
Graham-Paige—Manson Brothers, Malone.

OKLAHOMA

Studebaker—Baily & Hall, Maud.

PENNSYLVANIA

Studebaker—Stanley J. Grontkowski, Plymouth; P. H. McAndrews, Waynesburg; Johnson & Keesler, Mount Jewett.

The sturdy dependability of Wisconsin Axles reflects the true character of the men and methods which build them—engineering ability and high production standards—outwardly expressed as performance.

WISCONSIN AXLES

WISCONSIN AXLE CO.

Oshkosh Wisconsin

Cumulative New Commercial Car Registration Statistics, May, 1930

Returns for today: OKLAHOMA

Some of this data has been published previously, but it is given here complete for the convenience of our subscribers

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies.

Commercial Car Registrations do not include buses.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Dover	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Arkansas			152		7		1		142	8	60	3			1							2	2		2	380	Arkansas
Conn'icut	5	11	167	14	51	1	5	12	291	29	32	38	1	1	26	2		4	11	1	4	8	5	5	21	745	Conn.
Delaware	6	4	43	1	4	1			88	14	9	1			3		1		3				1			179	Delaware
Florida		4	148		9			1	223	6	8	1		1	1										1	403	Florida
Idaho			72		7				117	1	8							1		1			1		2	210	Idaho
Illinois	4	11	661	71	61		12	4	911	36	135	18	3	2	19		1	2	5		13	12	15		78	2074	Illinois
Maryland	13	15	157	14	22		2	3	281	15	43	20			22		1	3	2	1	2	6			4	626	Maryland
Minnesota		6	419	16	49	3	9	2	611	34	114	12	2	2	16	1	2			4	5	16	14	1	19	1357	Minnesota
Missouri		15	461	16	44	2		5	516	43	81	6	5	1	8		1		2	1	6	9	10		28	1260	Missouri
Montana			63	1	9		5	1	97	6	32	8			4					2	2	5	2		1	238	Montana
New Jersey	20	41	332	7	74	3	3	15	742	47	33	68	1	1	32	1	3	18	7	7	7	13	4	4	46	1529	N. Jersey
N. Carolina			265		14	1	2	1	292	7	24	2			1	1	1			2		4	3	1	10	631	Nor. Car.
N. Dakota			86	6	7		5		113	7	68				11		1				1		2	1	3	311	N. Dak.
Ohio	12	46	534	7	83	2	6	19	1072	99	150	44	5	4	60	9	3	4	19	3	21	60	15	4	69	2350	Ohio
Okla.	3	3	311	1	33		4	5	406	18	41	4			5					1	7	6	3		4	855	Okla.
Oregon	2		121		6	1	5	6	168	14	18	9	2		2	1		2		1	1	6	3	1	4	373	Oregon
Rh. Island	3	4	56	2	29		6	4	102	11	12	1			14		1	2		1					4	252	Rhode Isl.
S. Carolina		1	134		1				188	4	5	1			1					2	1	1			1	340	S. Car.
S. Dakota			99	3	5		1	1	84	1	44	1			11					1	2	1	3	1	1	259	S. Dakota
Utah			73		8				132		5	2			7		3			1		2	1		5	239	Utah
W. Virginia		4	155	2	38	1	1	3	189	18	57	1	1		9	1	1		2	1			1		5	490	West Va.
Wisconsin			449	37	27	1	4	7	563	29	96	3	1	3	24		1	14	7	4	6	3	10		23	1312	Wisconsin
Dist. of Col.	1	4	31	4	3	2		1	94	3	8	1	1		4						2	5				164	D. of Col.
Totals	69	169	4989	202	591	18	71	90	7422	450	1083	244	22	15	281	16	20	50	58	34	80	159	95	18	331	16577	Totals
Ark., 1929			4	193	1	22		1	2	317	5	46				12					2	1	4		1	1	612	Ark., '29
Conn., '29	10	15	222	4	86		5	6	265	34	41	39		2	71		4	2	23	8	6	7		3	22	875	Conn., '29
Del., 1929	2			48		12				80	12	14				7	1						2			2	180	Del., 1929
Fla., 1929			4	148		13		1		357	2	14	1			6					3	3				552	Fla., 1929
Idaho, '29				62		10				33	5	10	2			6		3			1		2		2	136	Idaho, '29
Illinois, '29	6	13	784	88	121		6	15	1077	52	200	32			49	1		5	2		13	19			119	2602	Ill., 1929
Md., 1929	19	7	233	16	49		2	8	295	34	52	24			21	1	1	11	5	2	3	18		1	8	810	Maryland
Minn., 1929			508	3	53		2	8	689	24	108	2		1	37		1			2	10	6		3	2	1459	Minn., '29
Mo., 1929	4	22	426	19	72		8	12	586	36	69	17			29		4	3	1	4	14	8		3	10	1347	Mo., 1929
Mont., '29			99		18		1	1	196	12	34	3		2	10		2				6	4		1	2	391	Mont., '29
N. J., 1929	25	17	440	5	79		9	14	565	48	46	46		3	56	2	5	10	7	12	9	25		6	59	1488	N. J., '29
N. Car., '29		2	306		40		2	3	285	16	16	4			7		3		2	2		7			4	699	N. C., '29
N. Dak., '29			155	1	20				156	13	101			1	9		4				5			2	3	470	N. D., '29
Ohio, '29	29	31	744	15	145		18	24	1183	76	202	44		4	73	7	4	4	6	3	40	69		18	78	2817	Ohio, '29
Okla., 1929	3	2	409		38		4	7	505	19	102	1			14	1				2	6	8		3	7	1131	Okla.
Ore., 1929			146		28		2	7	256	28	30	13			26		3	1		1		14			22	577	Ore., '29
Rh. Isl., '29	6	2	94		30		8	15	96	26	7	11			23			6	3	2	2	3			5	339	R. I., '29
S. Car., '29			203		18		2	9	253	3	11	1			2	1						3			1	507	S. C., 1929
S. Dak., '29			131	1	18		4		137	10	84				18		3			2				1	2	412	S. D.
Utah, 1929			52		8		1		86	1	5	1			6		4					2			2	168	Utah, '29
W. Va., '29	1	5	208	4	42			2	226	11	50			4	21	1	1		2	2		6		3		589	W. Va.
Wis., 1929		1	627	36	84		8	15	1047	48	161	8		3	58	1	7	16	8	8	29	14		4	33	2216	Wis., 1929
Dist. of Col.	1	5	61	6	15			2	138	9	4	11		3	6			2	10		2	6			1	282	D. C., '29
Totals	106	130	6299	199	1021	*	84	150	8828	524	1407	260	*	23	567	16	49	60	69	53	150	230	*	49	385	20659	Totals

*Not in production at that time.

ROTOGRAVURE SECTION

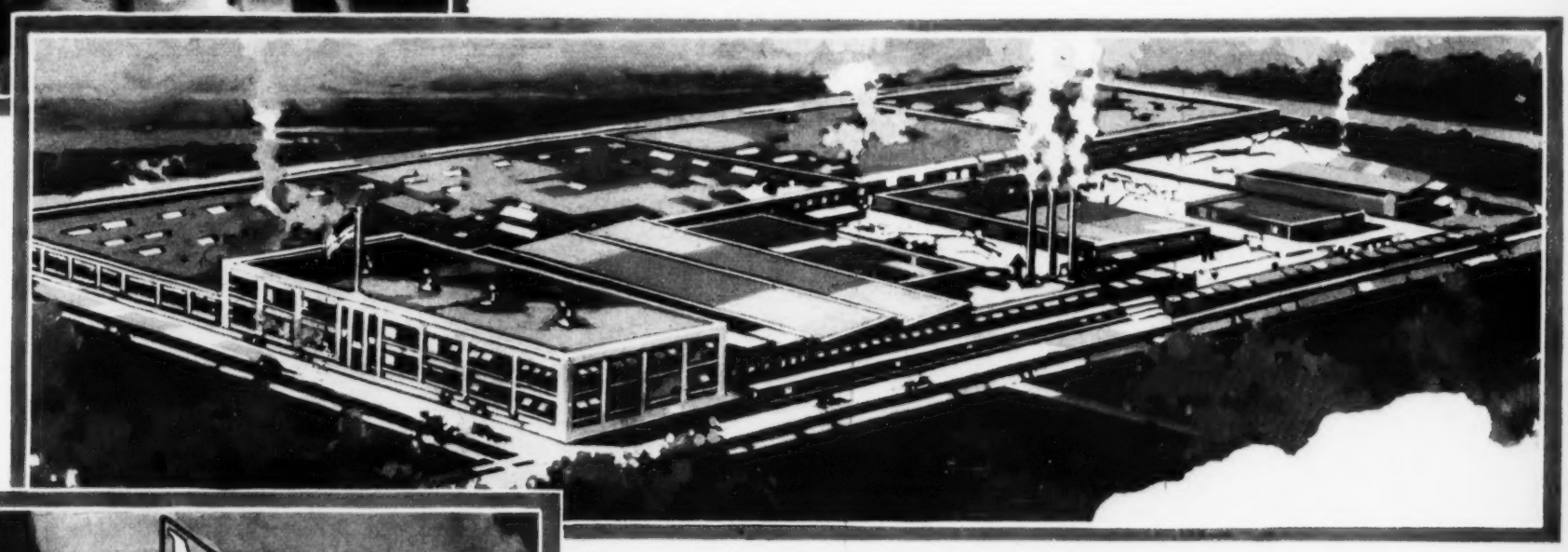
Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

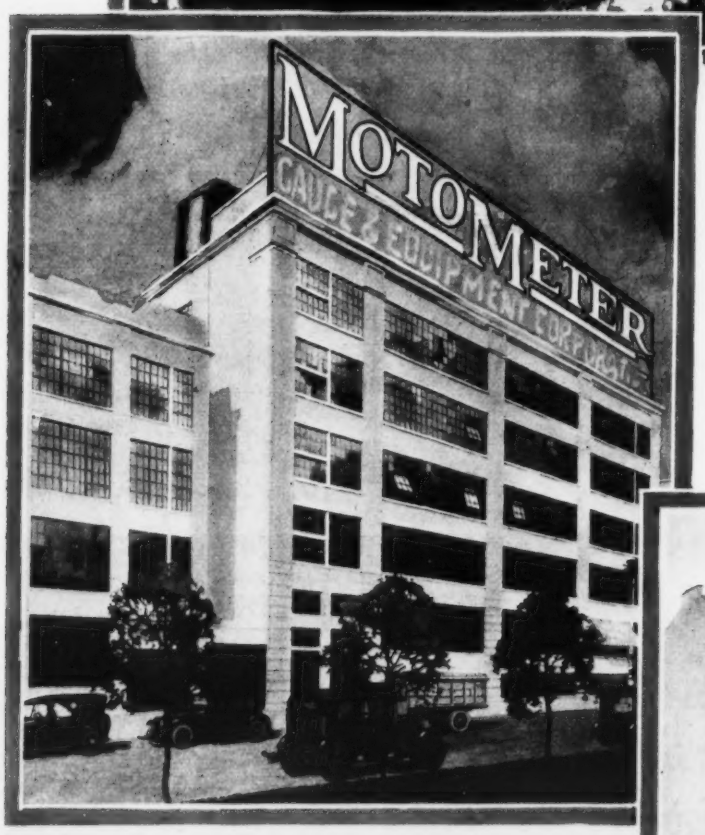
MOTO METER GAUGE & EQUIPMENT CORPORATION.

One of the largest manufacturers in the world of gauges and allied equipment for industrial and automotive purposes. The three huge plants shown on this page are an indication of the resources and facilities back of this great organization.

ROYCE G. MARTIN
President

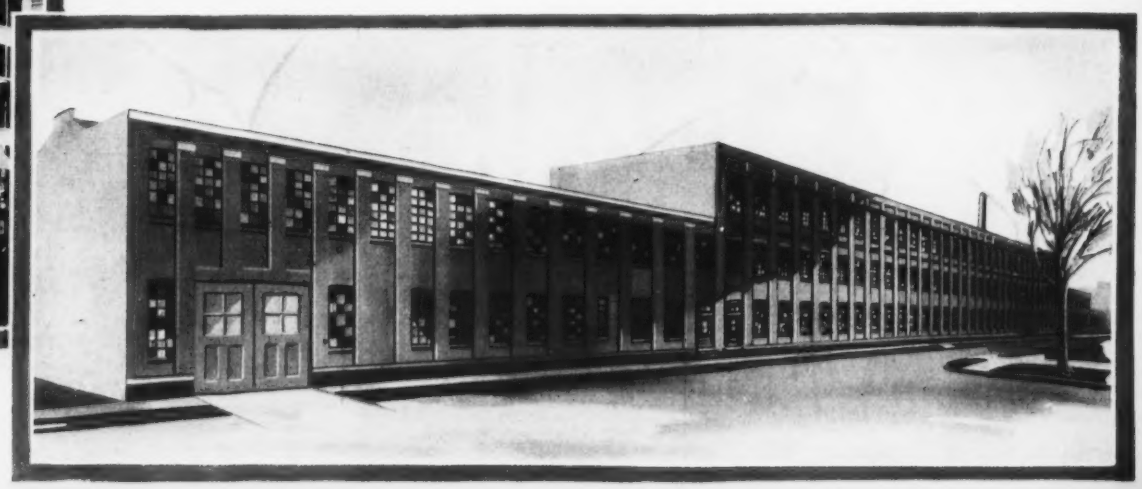


Moto Meter plant at La Crosse, Wis., devoted to the manufacture of instrument panels, and panel equipment.



Long Island City plant devoted to the manufacture of industrial, marine and aviation instruments.

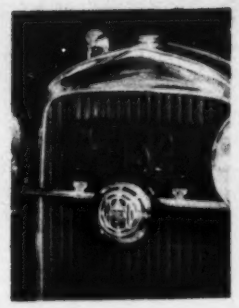
Plant at Toledo, Ohio, devoted to the manufacture of horns, and Bakelite parts and accessories.



4 Reasons why MoToVoX IS THE BEST BET IN THE MOTOR HORN FIELD

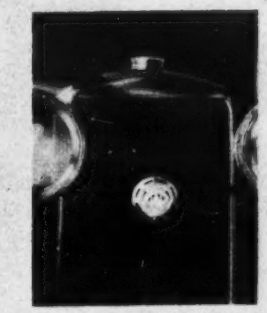
THIS WAS A GREAT CAR
AND THIS WAS A GREAT HORN
in 1910
but they're out of date
TODAY
THE MODERN CAR
CARRIES THE MODERN HORN
MOTOVOX
OUT IN FRONT WHERE THE
WARNING SIGNAL BELONGS
MoToVoX is the voice of today's automobile — more efficient because of its unique position out between the headlights. Its beautiful design makes the smartest car smarter. Thousands have found driving easier, faster, safer behind MoToVoX. Two models: Premier, $7.50 (Pictured at the lower left); Standard, $5.00 (Lower right). A new driving sensation awaits you if you drive down to your dealer today and get your
MOTOVOX
MOTO METER GAUGE & EQUIPMENT CORPORATION
Long Island City, N. Y.
Toledo, Ohio LaCrosse, Wis.

Every week during June and July messages like this are placed before nearly three million people, who might just as well be your customers. Cash in on this publicity.



This is the MoToVoX PREMIER, 6¾" in diameter, beautifully finished in red enamel and chromium plating. List Price

$7.50



This is the MoToVoX STANDARD, 5¼" in diameter, very attractively finished in chromium plating. List Price

$5.00

1. WELL-MADE MoToVoX is not just put together any old way. Materials are carefully selected and tested. Design and construction are sound and substantial. Quality has not been sacrificed to quantity production. A mere glance at the MoToVoX will show you that here is a product every part of which evidences *master-craftsmanship.*

2. APPEALING MoToVoX is a *better* automobile warning signal—and a *smarter* one. These two attributes make up its irresistible appeal. Because of its unique location out in front on the crossbar where nothing obstructs its compelling tone, it makes driving easier . . . faster . . . *safer.* Because it goes on the outside of the car it is a thing of beauty.. a work of art. . an ornament of which the motorist is proud.

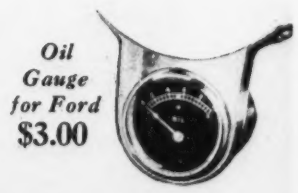
3. GOOD WILL MoToVoX is constantly adding to its already great popularity. The very name fits like a glove—MoToVoX, the voice of the modern car. The first two syllables definitely link it to the amous Moto Meter, known to everybody, made by the same company—a company that has built up an enviable reputation for supreme manufacturing standards and fair play. That is why handling MoToVoX will increase your prestige as a dealer.

4. ADVERTISING MoToVoX is being backed by regular, forceful advertising to the actual user. Three of the great national weeklies—Collier's, The Saturday Evening Post and The Literary Digest—carry the fascinating story of MoToVoX to more than 7,000,000 readers. This is *your* advertising, producing the kind of action that brings customers to *your* store asking for MoToVoX by name. In addition there is a MoToVoX demonstrating display (*free* to you) that does half the sales work—to say nothing of plenty of effective folders and booklets. All in all the idea behind MoToVoX is not to sell *to you* but to sell *for you.*

Radiator cap type Moto Meter Junior Model
$5.00

Moto Meter Tire Tester
$1.50

Red Ball Moto Meter
$6.50



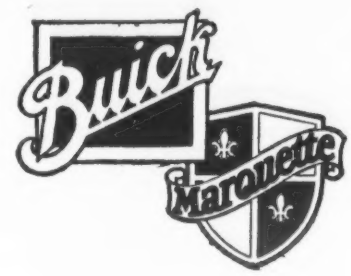
Oil Gauge for Ford
$3.00

MOTO METER
GAUGE & EQUIPMENT CORPORATION

TOLEDO, OHIO · LONG ISLAND CITY, N. Y. · LA CROSSE WIS.

Factories at Long Island City · Toledo · La Crosse · Canada · England · France · Germany · Australia

Everywhere—the Sign of the Moto Meter Service Station



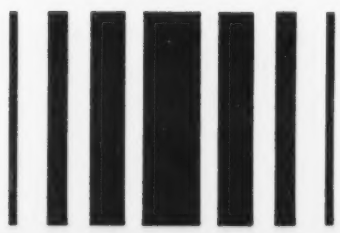
New Car *Preference* Assures Fair Trade-In Allowances

—and preference for Buick-Marquette is at the highest point in all Buick history!

Nationwide demand for Buick and Marquette, now at the highest point in all Buick history, allows Buick-Marquette dealers to appraise "trade-ins" at their market valuation.

Buick-Marquette dealers are winning from 30 to 50 buyers out of every 100 in Buick's field, while 14 other cars share the balance. Marquette preference has brought them a sales volume already exceeding $26,000,000. Moreover, demand for new Buicks *among Buick owners alone* is greater each year than the total annual production of any other car priced above $1200. Buick dealers share in this Buick popularity both in volume and in prestige that reflects itself in profits.

Get the complete facts concerning a Buick-Marquette franchise in your community. Remember, regardless of location, if a dealership is available, steady, certain preference for Buick and Marquette will mean steady, certain success for you. Write—or wire—today!



BUICK MOTOR COMPANY, FLINT, MICHIGAN

Division of General Motors Corporation

Canadian Factories
McLaughlin-Buick, Oshawa, Ont.

Builders of
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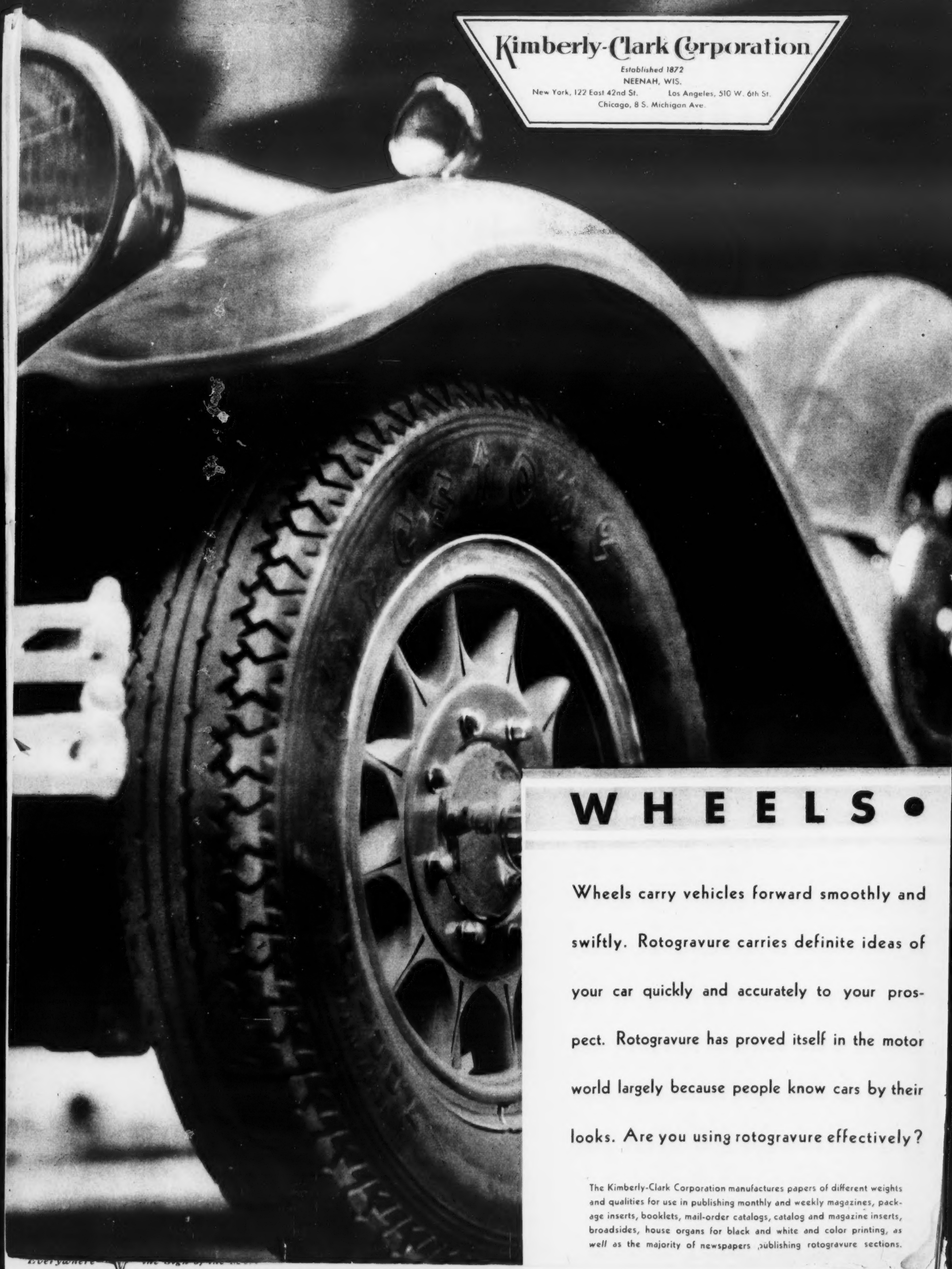


WHEELS •

Wheels carry vehicles forward smoothly and swiftly. Rotogravure carries definite ideas of your car quickly and accurately to your prospect. Rotogravure has proved itself in the motor world largely because people know cars by their looks. Are you using rotogravure effectively?

The Kimberly-Clark Corporation manufactures papers of different weights and qualities for use in publishing monthly and weekly magazines, package inserts, booklets, mail-order catalogs, catalog and magazine inserts, broadsides, house organs for black and white and color printing, as well as the majority of newspapers publishing rotogravure sections.

Major Specifications and Mechanical Details of 1930 Commercial Cars Built in the United States

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Am. La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	DR	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	CS	Zen	Vac	AB	Own	C	4	Own	2R	47.4	4	R	160	7200	S36x5	S36x5D
Am. La Fran. Chieftain	3-4	5500	Own	6	4⅛x5⅛	40.8	Pw	Zen	Vac	DR	Own	C	4	Tim	Wo	28.8	4	D	175	7200	S36x8	36x8D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	5[illegible]4	4	R	165	9800	S36x5	S40x6D
Am. La France Z	6½	5750	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	63.5	[illegible]	R	165	10000	S36x7	S40x7D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	—	63.5	4	R	165	10500	S36x7	S40x8D
Am. La Fran. Big Chief	6	6725	Own	6	4½x6	48.6	Pw	Zen	Vac	DR	Own	C	4	Own	2R	32.8	4W	D	226	10600	S40x8	S40x8D
Autocar A	1½	2700	Her	6	4 x4½	38.4	Pb	Str	Vac	DR	Br-L 51	U	4	Own SA	Sp	24.3	4	R	150	5060	32x6	32x6
Autocar D	2	3000	Her	6	4 x4½	38.4	Pb	Str	Vac	DR	Br-L 51	U	4	Own SD	2R	30.9	4	R	150	5300	32x6	32x6D
*Autocar H	3	3750	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own H	2R	44.3	R	R	114	6550	34x5S	36x10S
*Autocar SH	3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Gra	RB	Own T	U	4	Own H	2R	40.5	R	R	114	6770	34x7	34x7D
*Autocar SHA	3	4400	Own	6	4¼x4¾	43.4	Pw	Str	Gra	RB	Own T	U	4	Own TE	2R	40.5	R	R	138	6770	34x7	34x7D
Autocar SCH	3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own H	2R	40.5	R	D	157	6860	34x7	34x7D
Autocar SCHA	3	4400	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own TE	2R	40.5	R	D	177	6860	34x7	34x7D
*Autocar HS	3½	4100	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own H	2R	44.3	R	R	114	7200	34x6S	36x12S
*Autocar SHS	3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own C	2R	56.2	R	R	114	7900	40x8	40x8D
*Autocar SHSA	3½	4900	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own TF	2R	56.2	R	R	138	7900	40x8	40x8D
Autocar SCHS	3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own C	2R	56.2	R	D	157	8180	40x8	40x8D
Autocar SCHSA	3½	4900	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	4	Own TF	2R	56.2	R	D	177	8180	40x8	40x8D
Autocar TEA	3½	5350	Own	6	4¼x4¾	43.4	Pw	Str	Vac	RB	Own T	U	12	Own TE	2R	45.0	4	D	192	8900	36x8	36x8D
Autocar TFA	5	6100	Own	6	4½x4¾	48.6	Pw	Str	Vac	RB	Own T	U	12	Own TF	2R	45.0	4	D	192	9300	38x9	38x9D
Autocar C	5	5500	Own	6	4½x4¾	48.6	Pw	Str	Vac	RB	Own B	C	4	Own C	2R	46.2	R	D	172	9500	42x9	42x9D
Autocar F	7½	6800	Own	6	4½x4¾	48.6	Pw	Str	Vac	RB	Br-L 70	C	7	Tim	Wo	94.0	4	D	173	11000	36x7S	40x8DS
Autocar G	10	9000	Own	6	4½x4¾	48.6	Pw	Str	Vac	RB	Br-L 70	C	7	Tim	Wo	97.7	WB	D	171	13000	36x8	36x8D
Brockway 65	1	1195	Con 27 B	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36000	Sp	21.3	4	Tr	137	3400	30x5	30x5
Brockway 75	1¼	1290	Con 27 B	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20-4	U	4	Col 36000	Sp	25.6	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con 27 B	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20-4	U	4	Col 55000	Sp	25.6	4	Tr	149	3850	32x6	32x6
Brockway JR	1¼	1195	Wis C	4	3¾x5	22.5	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36001	Sp	21.3	4	Tr	130	3100	30x5	30x5
Brockway E 45	1½	1765	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	L-N	Br-L 30	U	3	Col 55001	Sp	21.0	4	Tr	139½	3650	32x6	32x6
Brockway KW	3	4100	Wis H	6	4 x5	38.2	Pb	Zen	Vac	L-N	Br-L 51	U	4	Wis 1228	2R	33.7	R	Dr	170	6920	34x7	34x7D
Brockway R	4	4200	Con L 4	4	4½x5½	32.4	Pw	Zen	Vac	Eis	Br-L 55	C	4	Tim 66600	Wo	46.8	R	R	164	7890	36x5S	36x12S
Brockway RT	4	4850	Con B 7	4	5 x6	40.0	Pw	Zen	Vac	Eis	Br-L 60	C	4	Tim 66700 S	Wo	53.5	RV	Dr	175	8100	36x5S	36x12S
Brockway 120	2	1990	Con 30 B	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L 35	U	4	Tim 54100	Sp	—	4	Tr	156	5200	32x6	32x6D
Brockway 140	2	2495	Con 30 B	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L 35	U	4	Wis 4916 L	2R	—	4W	Tr	156	5500	32x6	32x6D
Brockway 290	7	7250	Con 36 B	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L 70-7	C	7	Tim 68703 D	Wo	—	4W	Dr	182	10750	38x7	40x14S
Brockway 640	10	9700	Con 36 B	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L 70-7	C	7	Tim S W 400	Wo	—	4W	Dr	212	14000	38x7	36x10S
Brockway T	5-7	5200	Con B 7	4	5 x6	40.0	Pw	Zen	Vac	Eis	Br-L 60	C	4	Tim 68700	Wo	53.5	R	Dr	175	10065	36x6S	36x14S
Chevrolet	½	365	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	3	Own	Sp	13.61	4	R	107	1835	4.75x19	4.75x19
Chevrolet	1½	520	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	4	Own	Sp	33.46	4	R	131	2375	30x5	30x5
Commerce SRS 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Col 54028	Sp	25.5	4		142	3900	30x5P	30x5P
Commerce SRS 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Tim 54000	Sp	29.2	4		162	4300	30x5P	30x5DP
Commerce SR 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63704	Wo	34.8	4		168	4700	34x5P	34x5D
Commerce SRS 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Tim 54000	Sp	29.2	4		162	4500	32x6P	32x6D
Commerce SR 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63704	Wo	34.8	4		168	4900	36x6	36x6D
Commerce SR 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63704	Wo	34.8	4		168	5100	36x6P	36x6D
Commerce SR 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		168	7000	36x6P	36x6D
Commerce SR 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		175	7100	36x6P	36x6D
Commerce SR 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	93.2	B		175	8200	36x6S	36x12S
Commerce SR 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B		175	8400	36x6S	36x12S
Commerce SR 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 68700DP	Wo	95.0	B		172	9600	36x6S	40x14S
Day Elder M F	1¼	1345	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Br-L	U	4	Tim 52000 H	Sp	24.2	4	D	135	3500	30x5	30x5
Day Elder G F	1½	2050	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Br-L	U	4	Tim 54000 H	Sp	28.3	4	D	156	4400	30x5	30x5D
Day Elder H F	2	2500	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Br-L 35	U	4	Tim 63702 H	Wo	40.7	4	D	156	4900	S34x4	S34x7
Day Elder J F	3	3900	Con 18 R	6	4 x4½	38.4	Pb	Zen	Vac	DR	Br-L 51	U	4	Tim 65001 H	Wo	41.5	4	D	156	7000	34x7	34x7D
Day Elder K F	4-5	5000	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	Vac	DR	Br-L 60	C	4	Tim 66702 DH	Wo	55.2	4	D	162	9200	S36x5	S36x12
Day Elder N 6 W	7	6000	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	Vac	DR	Br-L 60	C	7	Tim SW 200 H	Wo	73.6	6	D	204	10000	34x7	34x7D
Diamond T 200	1	785	Bud	4	3¾x4½	22.5	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	128½	3050	30x5	30x5
Diamond T 215	1	885	Bud	6	3⅜x4	27.3	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	135⅛	3150	30x5	30x5
Diamond T 290	1½	1475	Her WXA 2	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5D
Diamond T 303	2	1745	Her WXB	6	3¾x4½	33.7	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	160¾	4850	32x6	32x6D
Diamond T 551	2½	2250	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	168	5600	32x6	32x6D
Diamond T 503	2½	2660	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Wo	—	4	D	174	6200	34x7	34x7D
Diamond T 506	2½	2820	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	2R	—	4	D	172½	6300	34x7	34x7D
Diamond T 602	3	3440	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	4	D	169½	7500	36x8	36x8D
Diamond T 606	3	3500	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	2R	—	4	D	186	7500	36x8	36x8D
Diamond T 700	3½	3740	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	R	D	162	8100	S36x5	S36x10
Diamond T 801	4	4140	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	C	7	Own	Wo	—	6WH	D	189½	8300	36x8	4 wh 36x8
Diamond T 1000	5	4420	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	4	Tim	Wo	—	R	D	170½	9700	S36x6	S40x12
Diamond T 1200	6	5600	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	180	11000	34x7	4 wh 34x7D
Diamond T 1600	8	6220	Her YXC 3	6	4⅝x4¾	51.3	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4W	D	190	11700	36x8	4 wh 36x8D
Diamond T 2500	10-12	8000	Wak 6 RB	6	5 x5¾	60	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4W	D	194	13100	S36x7	4 wh 36x12S
Dodge Bros. U-1	½	545	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	14.28	4	D	109	1900	5.00x20B	5.00x20B
Dodge Bros. U-1	¾	695	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	21.68	4	D	124	2260	5.50x20B	5.50x20B
Dodge Bros. U-1	1	795	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	4	Own	Sp	36.136	4	D	133	2590	6.00x20B	32x6
Dodge Bros. DA1	¾	795	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	3	Own	Sp	19.21	4	D	124	2360	5.50x20B	5.50x20B
Dodge Bros. DA1	1	895	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	33.45	4	D	133	2690	6.00x20B	32x6
Dodge Bros. DA1	1	1095	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	140	2955	30x5	30x5
Dodge Bros. DA1	1½	1365	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	150	3695	32x6	32x6
Dodge Bros. DA1	1½	1415	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	165	3810	32x6	32x6
Dodge Bros. DB1	2	1595	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	150	3930	32x6	34x7
Dodge Bros. DB1	2	1645	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	165	4070	32x6	34x7
Dodge Bros. DB1	3	1845	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	46.31	4	D	135	4235	32x6	32x6D
Dodge Bros. DB1	3	1895	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	41.43	4	D	165	4520	32x6	32x6D
Dodge Bros. DB1	3	1945	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	46.31	4	D	185	4715	32x6	32x6D
Dover	¾	445	Own	6	2¾x4½	18.2	CS	Mar	Vac	Aut	Own	U	3	Own	Sp	17.8	4	4	110	2150	30x5	31x5.50
Durant Com. Chassis	½	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Fargo Packet	½	545	Own	6	3 x4⅛	21.6	Pb	Str	Vac	NE	Own	U	3	Own	Sp	14.29	4	Tr	——	1835	5.00x19	5.00x19
Fargo Clipper	¾	725	Own	6	3⅛x4¼	23.4	Pb	Str	Vac	DR	Own	U	3	Own	Sp	15.53	4	Tr	——	2325	5.50x18	5.50x18
Fargo Freighter	1	795	Own	6	3 x4⅛	21.6	Pb	Str	Vac	NE	Own	U	4	Own	Sp	37.19	4	Tr	——	2785	6.00x20	32x6
Federal 4FW	1	980	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	W-G T9	U	4	Cla B370	Sp	40.8	4	Tr	127	2975	30x5	30x5
Federal E6	1	1090	Con 17 E	6	3⅛x4	27.3	Pb	Zen	P	DR	W-G T9	U	4	Cla B370	Sp	34.6	4	Tr	132	3120	30x5	30x5
Federal D	1-1½	830	——	4	3⅞x4¼	24	Pb	—	P	—	——	—	-	——	—	—	—	—	131	3060	6.00x20	32x6
Federal F7	1½	1525	Con 16 C	6	3⅛x4⅝	27.3	Pb	Zen	P	DR	Own	U	4	Tim 52005H	Sp	24.3	4	Tr	132	3765	30x5	30x5D
Federal A6	2	1855	Con 16 C	6	3⅛x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Cla B610	Sp	38.5	4	Tr	151	4580	32x6	32x6D
Federal A6T	2½	2185	Con 16 C	6	3⅛x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 58000H	Sp	41.3	4	Tr	151	4950	32x6	32x6D
Federal A 6 T W	2½	2360	Con 16 C	6	3⅛x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 65001 H	Wo	42.0	4	Tr	151	4950	32x6	32x6D
Federal T10P	2½-3	2740	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 58000H	Sp	36.3	4	Tr	165	6600	34x7	34x7D
Federal T10W	2½-3	2915	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 65001H	Wo	44.0	4	Tr	165	6600	34x7	34x7D
Federal U6	3-3½	3860	Con 18 R	6	4 x4½	38.4	Pb	Str	P	DR	Br-L 55	C	7	Tim 65706HP	Wo	64.6	4	D	165	7210	34x7	34x7D
Federal 4C6A	4-5	4735	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704HP	Wo	73.6	4	D	192	8330	36x8	36x8D
Federal 4C6AB	4-5	4960	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704TWP	Wo	73.6	4	D	192	8600	36x8	36x8D
Federal X8	7½	5085	Con B 7	4	5 x6	40	Pw	Zen	Vac	AB	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	9750	36x6S	40x14S
Federal X8R	7½	5810	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	10000	40x8	40x8D
Ford AA	1½	520	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	131½	2792	6.00x20	32x6
Ford AA	1½	545	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	157	2570	6.00x30	6.00x30D
F. W. D.—H	1½	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—H 6	2	3425	Wak	6	3½x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F. W. D.—BTL 4	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—HH 6	2½	4000	Wak	6	3¾x4½	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	101.0	4	R	133	5700	36x8	36x8
F. W. D.—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6S	36x6S
F. W. D.—B 5	3	4525	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6800	36x6S	36x6S
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7S	40x5SD

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
F. W. D.—U 4	3	4575	Own	4	4⅜ x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6S	36x6S
F. W. D.—U 6	3½	4575	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7200	36x6S	36x6S
*F. W. D.—X 6	6	6500	Wak	6	4¼ x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	4	170	9500	36x8	36x8
Garford Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	30x5	30x5
Garford Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4300	30x5	D30x5
Garford Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	34x5	D34x5
Garford Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4500	32x6	D32x6
Garford Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	36x6	D36x6
Garford Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	5100	36x6	D36x6
Garford Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Tim	Wo	68.6	4	D	175	7000	36x6	D36x6
Garford Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Tim	Wo	68.6	4	D	175	7100	36x6	D36x7
Garford Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	S36x6	S36x12
Garford Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8400	S36x6	S36x14
Garford Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	9600	S36x6	S40x14
Gen. Mot. T11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Pontiac	Sp	14.7	4	4	109⅝	1980	5.00x19B	5.50x19B
Gen. Mot. T15-1501	*5400	695	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51500	Sp	16.09	4	4	130	2625	5.50x20B	5.50x20B
Gen. Mot. T17-1701	*5500	735	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2650	6.50x20B	6.50x20B
Gen. Mot. T17-1707	*6500	750	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2670	5.50x20B	32x6
Gen. Mot. T19-2201	*6300	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2850	5.50x20B	32x6
Gen. Mot. T19-2214	*8500	985	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2925	30x5	30x5D
Gen. Mot. T25-2501	*6800	1235	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3375	6.00x20B	7.50x20B
Gen. Mot. T25-2509	*8500	1280	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3425	30x5	30x5D
Gen. Mot. T30-3206	*9000	1555	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4450	6.00x20B	8.25x20B
Gen. Mot. T30-3203	*11000	1605	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4525	32x6	32x6D
Gen. Mot. T42-4206	*10600	1735	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4575	7.00x20B	9.00x20B
Gen. Mot. T42-4203	*14000	1960	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4905	36x6	36x6D
Gen. Mot. T44-4401	*12000	1965	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	4825	32x6	32x6D
Gen. Mot. T44-4404	*15000	2095	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	5095	34x7	34x7D
Gen. Mot. T60-6202	*16500	3035	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	34x7	34x7D
Gen. Mot. T60-6205	*18500	3125	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	9.00x20B	9.00x20DB
Gen. Mot. T82-8202	*19000	3795	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	84.91	4	D	155	7500	9.00x20B	9.00x20DB
Gen. Mot. T82-8207	*22000	4070	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	84.91	4	D	155	7850	38x7	38x9D
Gen. Mot. T90-9001	*23000	5885	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	75.04	WR	D	185¼	9400	7.50x20B	7.50x20D
Gen. Mot. T90-9004	*28000	6055	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	75.04	WR	D	185¼	9775	8.25x20B	8.25x20DB
*Gramm B	1½	1495	Lyc 4 SL	6	3¼ x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	34.3	4	Tr	140	3800	30x5	30x5D
*Gramm C	2	1795	Lyc ASA	6	3⅝x4½	31.54	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	31	4	Tr	160	4820	32x6	32x6D
*Gramm D	2½	2195	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	33	4	Tr	160	5100	32x6	32x6D
*Gramm E	3	2595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	35	4	R	150	5200	34x7	34x7D
*Gramm EY	3	3595	Con 20 R	6	4¼x4¾	40.80	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	30	4	D	190	6750	32x6	32x6D
*Gramm GY	4	4345	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	28	4	D	210	7200	34x7	34x7D
*Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	25.2	4	D	236	9600	36x8	36x8D
*Gramm O-35	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	71.2	D	R	153	7200	36x5S	36x10S
*Gramm O-45	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	75.8	D	R	153	7700	36x5S	36x12S
*Gramm O-60	5	4745	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	78.4	D	R	153	8800	36x6S	36x14S
*Gramm T-38	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	45	D	R	153	7200	36x5S	36x10S
*Gramm T-48	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	47	D	R	153	7700	36x5S	36x12S
Indiana 64	1	1195	Con 27 B	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L 20	U	3	Col 36020	Sp	21.3	4	Tr	137	3435	30x5	30x5
Indiana 74	1¼	1290	Con 27 B	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L 20	U	4	Col 36020	Sp	25.6	4	Tr	137	3450	32x6	32x6
Indiana 89	1½	1525	Con 27 B	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L 20	U	4	Col 55002	Sp	25.6	4	Tr	149	3650	32x6	32x6
Indiana 11	1¼	1425	Her OX	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L 31	U	3	Cla B 365	Sp	24.48	R	R	129½	3500	30x5	30x5
Indiana 111	1½	1630	Her OX	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L 31	U	3	Cla B 509	Sp	26.4	R	R	129½	3600	30x5	32x6
Indiana 111 XW	2	1850	Her OXP	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L 35	U	4	Wis 4611	2R	30.14	R	Tr	120	3740	32x6	32x6D
Indiana 120	2	1990	Con 30 B	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L 35	U	4	Tim 54003 H	Sp	—	4	Tr	156	5200	32x6	32x6D
Indiana 140	2	2495	Con 30 B	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L 35	U	4	Wis 4916 L	2R	—	4V	Tr	156	5500	32x6	32x6D
Indiana 115 A	2½	2740	Her OXCP	4	4¼x5	28.9	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	42.99	R	Tr	132	4970	32x6	34x7D
Indiana 615 A	2½	3070	Wis Y	6	3⅜x5	27.34	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	46.29	R	Tr	136	5160	32x6	34x7D
Indiana 126	3	3780	Her L	4	4½x3¾	32.4	Pb	Str	Vac	Eis	Br-L 55-7	C	7	Tim 65704 S P	Wo	80.7	R	J	162½	7400	36x5S	36x10S
Indiana 626	3	4185	Wis H	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L 55-7	C	7	Tim 65704 S P	Wo	73.6	R	J	168½	7625	36x5S	36x10S
Indiana 627	3	3725	Wis H	6	4 x5	38.40	Pb	Str	Vac	Aut	Br-L 55-4	U	4	Cla B 720	Sp	42.8	R	D	168¾	6500	32x6	38x9
Indiana 127 AW	3	3775	Her K	4	4¼ x5	28.90	Pb	Str	Vac	Eis	Br-L 51-5	U	5	Wis 1228	2R	41.72	RV	D	158¼	7000	34x7	34x7D
Indiana 627 AW	3	4075	Wis H	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L 51-5	U	5	Wis 1228	2R	41.72	RV	D	156¼	7200	34x7	34x7D
Indiana 638	4	4955	Wis H	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L 60-7	C	7	Tim 66700 S P	Wo	83.1	R	J	174¼	8100	36x5S	36x12S
Indiana 290	7	7250	Con 36 B	6	4¾ x5¾	54.15	Pb	Str	P	L-N	Br-L 70-7	C	7	Tim 68703 E	Wo	—	4W	D	182	10750	38x7	40x14S
Indiana 640	10	9700	Con 36 B	6	4¾ x5¾	54.15	Pb	Str	P	L-N	Br-L 70-7	C	7	Tim 6 Wh	Wo	—	4RW	D	212	14000	38x7	36x10S
International AW-1	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	MM	V	3	Eat 517	Sp	17.4	4	2	136	2620	5.25x20	5.25x20
Int. Harvester Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 502 R	Sp	15.1	4	2	124	2200	30x5.25	30x5.25
Int. Harv. 6 Spd. Spec.	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 1124	Sp	*52.6	4	2	124	2430	30x5	30x5
Int. Harvester S-24	1¼	1160	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3200	30x5	30x5
Int. Harvester S-26	1¼	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3250	30x5	30x5
Int. Harvester SF-34	1½	1450	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	*140	3520	30x5	32x6
International AL-3	1½	1450	Lyc SLH	6	3¼x4½	25.3	Pb	Zen	Vac	DR	W-G	V	4	Eat 1518	Sp	42.9	4	2	138	4300	6.00x20	6.00x20D
Int. Harvester SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	*140	3570	30x5	32x6
Int. Harvester SD-44	2	1590	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3700	30x5	32x6
Int. Harvester SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3750	30x5	32x6
Int. Harvester SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	4	Eat 2002	Sp	40.6	4	2	*140	4000	32x6	32x6D
Int. Harvester A-4	2	1985	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 1712	Sp	47.8	4	2	*145	5070	32x6	32x6D
Int. Harvester A-5	3	2550	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 2112	Sp	52.6	4	2	*156	5606	34x7	34x7D
Int. Harvester HS-54	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 54	2R	60.5	4	4	*148	8000	36x5S	36x8S
Int. Harvester HS-54-C	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own A M 428	Ch	63.8	4	4	*148	8665	36x5S	36x10S
Int. Harvester W-1	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 58	2R	60.5	4	2	*148	8300	36x5S	36x8S
Int. Harvester HS-74	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 74	2R	70.5	4	4	*160	10700	36x5S	40x12S
Int. Harvester HS-74-C	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	79.1	4	4	*160	11000	36x6S	40x12S
Int. Harvester W-3	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 78	2R	70.5	4	2	*160	10125	36x6S	40x12S
Int. Harv'st'r HS-104-C	5	5500	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	90.5	4	4	*160	11095	36x6S	40x14S
La France-Repub. A-1	*6000	990	Lyc	6	2⅞x4¾	19.8	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	36.1	4	Tr	132	3000	5.50x20	32x6
La France-Repub. C-1	*7000	1295	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.1	4	Tr	144	3300	6.00x20	32x6
La France-Repub. D-1	*9000	1595	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	37.9	4	Tr	144	3725	30x5	30x5D
La France-Repub. F-2	*13000	2395	Lyc	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	40.1	4	D	174	5870	32x6	32x6D
La France-Repub. H-1	*15000	2985	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	36.0	4	D	163	5850	34x7	34x7D
La France-Repub. L-1	*18000	3595	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	2R	48.0	4	D	180	6900	36x8	36x8D
La France-Repub. M-1	*20000	3800	Wak	6	4 x4¾	38.4	Pb	Zen	Vac	Aut	Ful	U	5	Eat	2R	62.3	R	D	171	6900	36x8	36x8D
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	R	D	2-Opt	——	36x4S	36x8S
††Mack BJ	3½-5	6150	Own	6	4½x5½	48.6	Pb	Str	Vac	NE	Own	C	4	Own	2R	Opt	4	D	3-Opt	——	36x8	36x8D
††Mack AK	3½-5	5150	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4	J	3-Opt	——	36x5S	36x5DS
††Mack AK	3½-5	5250	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	C	4	Own	2R	Opt	4	D	3-Opt	——	36x5S	36x5DS
††Mack AC	3½-5	4950	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	——	36x5S	40x10S
††Mack AC	5½-7	5500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	——	36x6S	40x12S
††Mack AC	7½	6000	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	——	36x7S	40x14S
††Mack AP	7½	9500	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	R	J	191	——	36x7S	40x8DS
Mack BL	1	2500	Own	6	3¼x5	25.39	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	148	——	B6.00x20	DB6.00x20
††Mack BG	1½	3000	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	138-156	——	32x6	D32x6
††Mack AB	2½-3	3500	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	Ch	Opt	R	D	2-Opt	——	36x4S	36x8S
Mack AB	2½-3	4750	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	2R	Opt	R	D	2-Opt	——	34x7	D34x7
††Mack AB	2½-3	4300	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Ch	Opt	R	D	2-Opt	——	34x7	D34x7
††Mack BC	3½-4	5250	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	2R	Opt	4	D	2-Opt	——	34x7	D36x8
††Mack BC	3½-4	4250	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	4	D	2-Opt	——	36x5S	36x5DS
Mack AC 6-wheel	10	7500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	——	36x7S	40x12S
Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	——	36x7	40x12S
Paige	¾	860	Own	6	3¼x4½	25.35	Pb	DL	P	DR	W-G	U	3	Sal	Sp	17.36	4	Tr	115	2465	B5.50x19	B5.50x19
Relay Series 15	¾	1370	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	R	38.4	4	D	131	3750	30x5P	30x5P
Relay Series 15	1	1410	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	R	38.4	4	D	139	3800	30x5P	30x5P
Relay Series S 11	1	1700	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	25.7	4	D	142	4050	30x5	30x5
Relay Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	25.7	4	D	162	4500	30x5	D30x5

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Relay Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.2	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5300	34x5	D34x5
Relay Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	30.0	4	D	162	4700	32x6	D32x6
Relay Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5500	36x6	D36x6
Relay Series 50	2	3860	Bud D W 6	6	3¾x5	33.7	PC	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	6800	36x6	D36x6
Relay Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5700	36x6	D36x6
Relay Series 50	2½	3950	Bud D W 6	6	3¾x5	33.7	PC	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7000	36x6	D38x7
Relay Series 60	2½	4530	Bud B A 6	6	4 x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7350	36x6	D36x6
Relay Series 50	3	4130	Bud D W 6	6	3¾x5	33.7	PC	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7200	36x6	D40x8
Relay Series 60	3	4595	Bud B A 6	6	4 x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7500	36x6	D38x7
Relay Series 80	3	5250	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	U	8	Own	R	84.18	4	D	175	8400	36x6	S40x10
Relay Series 60	3½	4745	Bud B A 6	6	4 x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7800	38x7	D40x8
Relay Series 80	3½	5330	Bud B A	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8600	36x6	S40x12
Relay Series 80	4	5380	Bud B A	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8800	38x7	S40x14
Relay Series 100	5	6615	Con 21 R	6	4⅜x4¾	45.9	PC	Str	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	230	10000	9.00x24	D9.75x24
Reo 15 Junior	½	785	Con 16 E	6	3⅜x4	27.3	Pb	Sch	P	DR	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	6.00x18	6.00x18
Reo D A	1	995	Con 16 E	6	3⅜x4	27.3	Pb	Sch	Vac	DR	W-G	U	3	Own	Sp	18.4	4	Tr	123	2755	30x5	30x5
Reo D F	1	1095	Own C B	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	135	3200	6.00x20	32x6
Reo F A	1½	1295	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	22.96	4	Tr	137	3525	32x6	32x6
Reo F E	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	22.96	4	Tr	152	3700	32x6	32x6
Reo F H	2	1595	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6D
Reo F C	2	1645	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6D
Reo F D	2	1745	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6D
Reo G A	3	2035	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6D
Reo G C	3	2140	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6D
Reo G D	3	1985	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	46.2	4	Tr	144	4570	32x6	32x6D
Rugby ½ T	½	655	Con	6	3¼x4	25.4	Pb	Str	AC	Aut	Own	U	3	Own	Sp	15.6	4	4	—	2160	29x5	29x5
Rugby 6-15	1	865	Con	6	3¼x4	25.4	Pb	Str	AC	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	2900	20x5.50	32x6
Selden 7 C	1	1098	Con	6	2⅜x4¾	19.84	Pb	Zen	Vac	Aut	BB	U	3	Tim	Sp	—	4	D	124	3600	30x5	30x5
Selden 17 C	1½	1500	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 317 C	1½	3900	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 37 C	2	1935	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	151	4800	32x6	32x6D
Selden 39 C	2½	2920	Con	6	4 x4⅛	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	164	5800	32x6	32x6D
Selden 47 C B	3½	3785	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	171	7200	34x7	34x7D
Selden 47 C D	4	4435	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	5	Wis	2R	—	4	D	171	7600	36x8	36x8D
Selden 67 C	5	4975	Con	6	4⅜x4¾	45.94	Pb	Str	Vac	Aut	Br-L	U	7	Wis	2R	—	4	D	171	8700	36x8	36x8D
Selden 77	7	7365	Con	6	4¾x5¾	54.15	Pb	Str	Vac	Aut	Br-L	U	7	Wis	2R	—	4	D	178	12000	36x7	40x7D
Service Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	30x5	30x5
Service Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4300	30x5	D30x5
Service Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	34x5	D34x5
Service Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4500	32x6	D32x6
Service Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	36x6	D36x6
Service Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	PC	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	5100	36x6	D36x6
Service Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Tim	Wo	68.6	4	D	175	7000	36x6	36x6
Service Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Ful	U	5	Tim	Wo	68.6	4	D	175	7100	36x6	D38x7
Service Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	S36x6	S36x12
Service Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8400	S36x6	S36x14
Service Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	PC	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	9600	S36x6	S40x14
Stewart 30	1	695	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	—	4	D	130	2905	6.50x20	6.50x20
Stewart 30 X	1	795	Lyc WRG	6	2⅞x4¾	19.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	—	4	D	130	2965	6.50x20	6.50x20
Stewart	1½	895	Lyc	4	3¾x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	24.0	4	D	130	3526	20x6.50	20x6.50D
*Stewart 34 X	1½	1195	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	24.0	4	D	145	3526	6.50x20	6.50x20
Stewart 40	1½	895	Lyc AFE	4	3¾x4½	22.5	P	Str	Vac	DR	W-G	U	4	Cla	Sp	—	4	D	130	3215	6.50x20	6.50x20D
Stewart 28 X	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	Ful	U	4	Cla	Sp	27.3	4	D	136	3840	6.50x20	6.50x20
Stewart 29 XS	2	1695	Lyc ASA	6	3⅝x4½	25.3	Pb	Str	P	DR	Ful	U	4	Cla	Sp	27.3	4	D	145	4188	32x6	32x6D
Stewart 26 XW	2	2290	Lyc TF	6	3⅝x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	29.0	4	D	165	5095	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc TF	6	3⅝x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	29.0	4	D	165	5788	32x6	32x6D
Stewart 32 X	2½	1990	Lyc ASA	6	3⅝x4½	31.54	Pw	Str	Vac	DR	Ful	U	4	Cla	Sp	7.25:1	4	D	165	5100	32x6	32x6D
Stewart 33 X	3	3290	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	7.25:1	4	D	165	6450	34x7	34x7D
Stewart 19 X	3½	3690	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	C	12	Tim	Wo	105.1	4	D	165	6990	36x5	36x10
Stewart 31 X	5	4990	Wak 6 RSL	6	4⅝x5⅛	45.9	Pw	Str	Vac	DR	Ful	C	8	Tim	Wo	10.5:1	4	D	165	8400	36x6S	36x6SD
Stewart 27 X	6-7	5700	Wak 6 RSL	6	4⅜x5⅛	45.99	Pw	Str	Vac	DR	Ful	U	8	Tim	Wo	93.81	4	D	165	9927	36x7	40x7D
Studebaker GN-P	¾	845	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	15.15	4	14	115	2465	6.00x19	6.00x19
Studebaker GN-S	1	1045	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	130	2990	6.00x20	30x5
Studebaker GK-N	1	1095	Own	6	3⅜x4⅝	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	146	3000	30x5	30x5
Studebaker GN-N	*4000	1245	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Cla	U	4	Cla	Sp	33.5	4	D	146	3265	30x5	32x6
Studebaker 77	*12500	2895	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	158	5030	7.00x20	7.00x20D
Studebaker 88	*12500	3295	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5200	7.50x20	7.50x20D
Studebaker 99	*14000	3795	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5680	7.50x20	7.50x20D
Whippet 96 A	½	360	Own 96 A	4	3⅛x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.74	4	R	103¼	1691	4.75x19	4.75x19
†White 15 B	1	1545	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3242	30x5	30x5
†White 57	1¼	2725	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3755	32x6	32x6
†White 20 A	1½	2125	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	2R	32.1	R	R	145½	4412	34x5	34x5D
†White 56	2	3125	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.2	R	D	165	5096	36x4S	36x7S
†White 51 A	2½	3750	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	35.5	R	D	170	6256	36x5S	36x8S
†White 55	3½	4650	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	66.1	D	R	174	8512	36x5S	40x5SD
†White 52 T	3½	4700	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	76.5	D	R	129½	8236	36x5S	40x5SD
†White 52	5	5100	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	5	Own	IG	92.3	D	R	174	9184	36x6S	40x12S
†*White 58	3	4400	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	49.7	4	R	180	7535	36x5S	36x5SD
†White 60	1	1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	3	Own	Sp	17.9	4	D	138	3562	30x5	30x5
†White 61	1½	2450	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	D	148	4612	30x5	30x5D
†White 59 A	7½	6000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	L-N	Own	U	4	Own	Sp	66.5	D	R	155⅛	—	40x8	40x14S
Willys-Knight 87	—	825	Own	6	2⅛x4⅜	20.7	Pb	Til	Vac	Aut L	Own	U	3	Own	Sp	16.10	—	—	112½	—	5.50x29	5.50x29
Willys-Knight T-103	1½	825	Own KGT	6	2⅛x4⅜	20.7	Pb	Til	Vac	Aut	Cov	U	4	Cla	Sp	42.33	4	B	131	2808	5.50x20	30x5
Willys Six 98 B	½	525	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.28	4	B	110	1903	5.00x19	5.00x19
Willys Six C-101	1½	695	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Cov	U	4	Cla	Sp	36.12	4	B	131	2675	5.50x20	5.50x20

GENERAL NOTATIONS

*†**REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con., Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak Waukesha; Wis, Wisconsin. Hall, American Car & Foundry.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Fw, full pressure lubrication to all bearings, including wrist-pins; CS, circulating splash; Sp, Splash.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Vac, Vacuum tank; P, Fuel pump.

IGNITION — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; N-E, North East; RB, Robert Bosch; D R, Delco-Remy; Mag, Magneto.

TRANSMISSION—Br L, Brown-Lipe; Cov Covert; Ful, Fuller, Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cotta, Cotta Gear Co.

LOCATION—C, Center, amid; U, in unit with engine.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken, Wis, Wisconsin.

FINAL DRIVE—IG, Internal gear; St, Straight bevel; Sp, Spiral bevel; Wo, Worm; 2R, Double reduction; Ch, Chain; Relay, Relay drive.

BRAKES—J, Jack shaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; V, Vacuum booster; W, Westinghouse air brake. B, Both front and rear wheels.

TIRES—B Balloon; D, Dual; S, Solid.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900.

Chieftain model also available as Dump Truck 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUTOCAR

*Engines in these models are located under the driver's seat.

DAY-ELDER

Models GF and HF also available in 186-inch wheel base.

Model JF also available in the following wheel bases: 165, 180 and 204 inches.

Model KF also available in 202-inch wheel base and tractor 149.

DURANT LINE

*Price includes panel body.

GENERAL MOTORS TRUCK LINE

*Capacity indicated for each chassis is the recommended gross weight without exceeding rated capacity of tires. The tire size does not affect the straight rating for which chassis is guaranteed and each model is designed to operate satisfactorily under average conditions with loads giving a total gross weight (chassis, body, equipment and payload) equal to straight rating given below. The additional standard wheel base lengths, the number of additional tire types (tire combinations—each type carrying a recommended gross weight) and the ton range on a nominal payload basis for each model is given below.

Model	Straight Rating	Additional Wh. Bases, ins.	Addit'l Tire Types	Pay'l Range
T-11	3800	None	None	½
T-15	5400	141	2	¾
T-17	6500	141	6	¾-1¼
T-19	8500	141, 152	16	1-2
T-25	8500	141, 152	11	1-1½
T-30	11000	152, 164	12	1½-2½
T-42	14000	152, 164, 181	10	2-3½
T-44	15000	152, 164, 181	10	2-4
T-60	18500	166¾, 184½, 200¼	16	2½-4½
T-82	22000	167½, 185¼, 201	10	3-6
T-90	28000	201, 220	5	5-7½

Optional rear axle ratios are available for all models.

F. W. D.

*Indicates six-wheel model. Special power take-off transmission, which provides 3 power take offs which may be operated in any transmission speed, optional on all models.

GRAMM

*Models B, C, D and E are furnished in three wheel base lengths—others on request.

*Models GY and GYB also available in 190-inch wheel base.

*Models HY and HYB also available in 210-inch wheel base.

Tire sizes and electrical equipment optional, depending upon type of service—coach or van.

*Model O Series, Large engine, pneumatic tires, special wheel bases optional at extra cost.

*Model T Series, Large engine, pneumatic tires, special wheel bases and 8 speed transmission optional at extra cost.

MACK LINE

Other wheel bases furnished on all truck models.

On 6-wheel jobs 4 rear wheels driven by chains, foot brake on 4 rear wheels.

HYP.—Hypoid drive, single reduction.

††Made also in tractor models.

REO LINE

RD2, at $5,450 on 180-inch wheel base.

*Tonner in wheel base, 123, 138; 1½-ton in wheel base, 137, 156 NS; 2-ton in wheel base, 152, 168; 3-ton in wheel base, 168, 179, 184.

RUGBY

F—Chassis weight includes body.

STEWART LINE

Model 30 and 30X can also be supplied in 120 and 140-inch wheel base.

Model 40 can also be supplied in 140 and 160-inch wheel base.

*Model 34X can be supplied in 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 170 and 190-inch wheel base.

*Models 18X, 32X and 33X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148, 172, 190, 220 and 235-inch wheel base.

STUDEBAKER LINE

*Capacity Model GN-N is 4,000 lbs. for body, cab, driver and payload.

Maximum gross load, chassis, body and payload for Models 77 and 88 is 12,500 lbs. and for Model 99 is 14,000 lbs.

‡Hand brake same as foot brake, standard. Hand brake on drive shaft, special equipment.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Production--Engineering--Factory-

Gasoline Specifications

By OSCAR C. BRIDGEMAN

Paper read before the Petroleum Technologists of the National Petroleum Association at the Bureau of Standards, Washington, recently.

FEDERAL specifications for gasolines are based on the research work of the petroleum and automotive industries, and of various government departments including the Bureau of Standards. Their aim is to insure the purchase of good gasolines by the government, at a reasonable cost, on the basis of tests which are significant from the standpoint of engine performance. While all of the tests employed at present may not be as significant as is desirable, research work along these lines is continually being conducted at the bureau and elsewhere, the results forming a basis for changes in the tests and modifications in the specifications leading toward the desired end.

The present discussion is limited to those tests and specifications which are now in effect or the modification of which is under contemplation. These include volatility, vapor pressure, gum content and sulphur content, which will be considered briefly in the order named.

One of the most important characteristics of a fuel from the standpoint of engine performance is the volatility, or the ease with which the gasoline will evaporate under the given conditions. The test for volatility consists in distilling the gasoline under the specified conditions which have been standardized by the American Society for Testing Materials. The significance of this test has been amply demonstrated by the research work of the bureau during the past few years, which is summarized in a recent paper.[1] The interpretation of the volatility test in terms of engine performance has been so successful that, given the requirements of the engine, it is now possible to specify the desired volatility characteristics with reasonable assurance. This interpretation is only significant when the distillation points are expressed in terms of percentage evaporated, which is the percentage distilled plus the distillation loss. Some of the more important phases of engine performance related to volatility are briefly discussed in the following sections.

(1) Engine Starting — In order that an engine may start, an explosive mixture must be found in the cylinders, and the ease with which this occurs is determined by the temperature at which 10 per cent. of the gasoline is evaporated in the A. S. T. M. distillation test.[2] A lower 10 per cent. point indicates easier starting under comparable conditions. For the average car on the road and an average gasoline, the temperature below which starting will not be easy is approximately 140° F. below the A. S. T. M. temperature at 10 per cent. evaporated.

(2) Vapor Lock—Vapor lock is the partial or complete interruption of gasoline flow in the fuel feed lines due to the formation of bubbles of gas or vapor. It is ordinarily not serious until the gasoline commences to boil and this temperature for properly stabilized gasoline is the A. S. T. M. 10 per cent. point.[3]

(3) Acceleration—In a given engine, the effectiveness of the fuel for producing acceleration appears to be dependent upon the A. S. T. M. distillation curve, better acceleration being obtained with a fuel which is more volatile between the 10 per cent. and 70 per cent. temperatures when a constant carburetor setting is employed and too rich a mixture is not used. On the other hand, manifold temperature and carburetor setting could probably be chosen in each case so as to give the same acceleration with each fuel.

(4) Distribution—The case of mixture distribution, when the engine is warmed up, depends upon the A. S. T. M. distillation temperatures between 50 per cent. and 90 per cent. evaporated. A more volatile fuel in this range should give better distribution.

(5) Crank Case Oil Dilution—The extent of oil dilution depends upon the dew point of the gasoline, which is the temperature of complete evaporation of the air-fuel mixture. The dew point is related to the 90 per cent. A. S. T. M. point[4], so that under comparable conditions dilution is less with fuels having lower 90 per cent. point temperatures.

(6) Fuel Consumption—Fuel consumption is essentially independent of volatility, for all fuels give the same mileage, with very minor variations, when the carburetor is adjusted properly for each fuel. With a fixed carburetor setting, different fuels may give different mileages, depending upon the carburetor setting and the operating conditions.

(7) Power—Power is likewise independent of volatility, for all fuels give essentially the same power if the carburetor is properly adjusted for each fuel. With a fixed carburetor setting power may vary slightly, depending upon various factors.

In embodying the results of the above researchers into gasoline specifications, the following volatility requirements are specified:

(a) Maximum 10 per cent. point to insure easy starting.

(b) Minimum 10 per cent. point to minimize vapor lock.

(c) Maximum 50 per cent. point to tie down the distillation curve between the 10 per cent. and 90 per cent. points to secure good acceleration on the one hand and good distribution on the other hand.

(d) Maximum 90 per cent. point to reduce crankcase oil dilution.

The initial point, the end point and the gravity may be significant in connection with a specific refinery output, but in general they are not significant as regards volatility and engine performance. The aviation gasoline specifications will probably be brought in line with the above specification points.

The vapor pressure test is important from the standpoint of vapor lock. While the 10 per cent. point is indicative of vapor lock with properly stabilized gasolines, it is not so satisfactory in the case of fuels containing more than traces of propane. The vapor pressure test is satisfactory for all gasolines, and its introduction into specifications is under consideration to replace the minimum 10 per cent. point requirement. After extensive work with a complicated laboratory vapor pressure method, it was concluded that the simple Reid method was satisfactory for practical purposes. A high vapor pressure indicates greater danger from vapor lock.

Gum present in gasolines at the time of use may cause objectionable deposits in the intake manifold and on the intake valves. Two problems are involved—the gum content at the time of test and the gum which forms during storage. The bureau and a number of industrial laboratories are working intensively on both problems, but no tests have been conclusively proven as satisfactory to date. The present copper dish method is not satisfactory, and when suitable test methods have been developed and the permissible gum content has been determined these will doubtless be incorporated into all gasoline specifications for the government.

The test for sulphur is reasonably satisfactory, but further work should be done to establish the permissible sulphur content. The bureau is not engaged in any sulphur research at present, but a program of work along these lines is contemplated.

Gasolines which the government can purchase on specifcations are listed below.

1. United States motor gasoline for general use.
*2. Motor fuel F for freezing temperatures.
*3. Motor fuel T for tropical storage.
4. Motor fuel V for special purposes and for 0° F. temperatures.
5. Domestic aviation gasoline.
6. Fighting aviation gasoline.

The naming of the fuels marked * has not been finally adopted as yet.

REFERENCES

1. S. A. E. Journal, October, 1929, p. 345.
2. S. A. E. Journal, March, 1927, p. 353.
3. A. P. I. Bulletin, January 3, 1930, Sec. III., p. 4.
4. S. A. E. Journal, 23, 478 (1928).

TABLE 1

Present Specifications

A. Motor Gasolines	U. S. Motor	Motor Fuel F	Motor Fuel T	Motor Fuel V
10% point, maximum	80° C. (176° F.)	70° C. (158° F.)	80° C. (176° F.)	65° C. (149° F.)
10% point, minimum	50° C. (122° F.)	50° C. (122° F.)	60° C. (140° F.)	50° C. (122° F.)
50% point, maximum	140° C. (284° F.)	140° C. (284° F.)	140° C. (283° F.)	125° C. (257° F.)
90% point, maximum	200° C. (392° F.)	200° C. (392° F.)	200° C. (392° F.)	180° C. (356° F.)
End point, maximum	225° C. (437° F.)	225° C. (437° F.)	225° C. (437° F.)	200° C. (392° F.)
Recovery, minimum	96%	96%	96%	96%
Gum, maximum	....	....	....	....
Sulphur, maximum	0.10%	0.10%	0.10%	0.10%

B. Aviation Gasolines	D. A. G.	F. A. G.
5% point, maximum	75° C. (167° F.)	65° C. (149° F.)
5% point, minimum	50° C. (122° F.)	50° C. (122° F.)
50% point, maximum	105° C. (221° F.)	95° C. (203° F.)
90% point, maximum	155° C. (311° F.)	125° C. (257° F.)
96% point, maximum	175° C. (347° F.)	150° C. (302° F.)
End point, maximum	190° C. (374° F.)	165° C. (329° F.)
Recovery, minimum	96%	96%
Distillation loss, maximum	2%	2%
Gum, maximum	3 mg.	3 mg.
Sulphur, maximum	0.10%	0.10%

Note 1. All temperatures refer to percentages distilled and not percentages evaporated.

Note 2. For the motor gasolines, the minimum 10 per cent. point shall be lower 3° C. (5.4° F.) for every per cent. distillation loss less than 4 per cent.

Note 3. The nomenclature for motor fuels F and T have not been officially adopted as yet.

Abrasive Grain Size Simplification

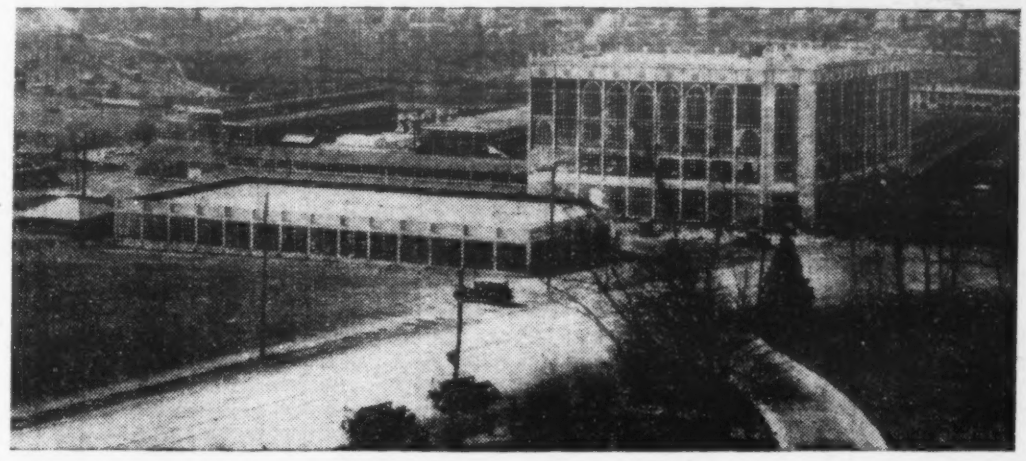
At a general conference recently held under the auspices of the division of simplified practice of the Bureau of Standards, Department of Commerce, representatives of the producers and users of abrasives unanimously approved a simplified practice recommendation on allowable limits for the sizing of aluminum oxide and silicon carbide abrasives for polishing uses and grinding wheel manufacture.

A summary report of this general conference has been mailed to the members of the industry for their consideration and if approved the recommendation will become effective September 1, 1930.

FRANK BUCHANAN

Syracuse, N. Y., June 26.—Frank Buchanan, superintendent of the headlight manufacturing department of the Crouse-Hinds Company, died yesterday at his home in this city, following a short illness. He was 68 years of age, a native of Piqua, O., and had resided in Syracuse for the last thirty years.

Worcester Pressed Steel Has New Building and Museum



THE Worcester Pressed Steel Company is at the present time completing a new office building and museum. This building comprises four stories and basement, made of glass and steel with the exception of the floors and roof. This building and the garage across the street are painted with aluminum paint, and is believed to be the first building of its kind to be so painted in the country. The lobby floor is made of steel plates with welded joints covered with tile similar to the steel flooring used on battleships.

This new building was built in sections, not one floor at a time. The uprights are all one piece with I-beams 75 feet long. The head room on the top floor is 35 feet, with a mezzanine running on one side the entire length of the building. This floor will house the John Woodman Higgins collection of arms and armor and will show pressed metal stampings from the earliest ages to the present time.

Problems of Merchandising And Advertising Steel Castings

By ROGER L. WENSLEY

An address presented at the midsummer meeting of the Steel Founders' Society of America at White Sulphur Springs, W. Va., yesterday. Mr. Wensley is an advertising man with practical, seasoned merchandising and engineering experience. Formerly an assistant consulting mining engineer, he has for the past ten years served as advertising counsel to several prominent companies in the steel foundry industry and is now president of G. M. Basford Company, New York, one of the largest concerns specializing in industrial advertising.

This address will appear serially in Automotive Daily News beginning today.

A SHORT time ago the brains of business were concentrated upon problems of production. The work of Taylor, Gilbreth and similar production economists had clearly pointed the way to a large increase in earnings by the application of scientific management to production. With the aid of machinery radical economies in production costs were accomplished with substantial increases in profits. Today, while we have not exhausted the possibilities of reducing costs through the application of machine methods, production has been crowded into the background by the growing problem of disposing of our products. Alert management is now casting about for means of paring the distribution expenses that absorb a constantly increasing part of the producer's dollar.

Typical of the situation in many industries is the experience of one executive who says that two years ago it required forty minutes of total pay-roll labor to produce one unit of his goods. Last year this was reduced to thirty minutes, and this year a further reduction brought it down to twenty and one-half minutes. This was accomplished while still keeping wages at the same rate. By careful planning and management more goods were produced with the same people at work.

He, of course, has no corner on the brains of his industry and many of his production improvements have been equaled by competing manufacturers. As a rule the saving has been accomplished by producing more goods with the same crew at work. This has resulted in an added burden on the sales department, because it must now sell more goods against the competition of every other manufacturer who is producing more goods than previously.

In the business of the executive referred to the appalling situation has been reached where it costs nearly twice as much to pay for the man power involved in selling the goods as it does to pay for producing them. So today production is no longer the major problem of industry. Distribution, at a profit, is the controlling factor in earnings.

Production Now Overshadowed by Distribution

All over the country business executives are focusing their attention on the cost of distribution; the problem is to dispose of products that are now made so economically. It is with this distribution phase of the steel castings industry that I am particularly concerned today. Confronted with a large surplus of productive capacity, the steel castings industry, to improve its situation, must stimulate the broader use of cast steel and by improved methods of merchandising distribute its products economically and at a profit.

In considering the merchandising of steel castings and in making recommendations looking to the extension of markets the first step is to analyze the product.

What have we to sell; how is it at present regarded by the trade; what, if anything, is needed to prepare the product for a broader usefulness; what obstacles block the way to increased volume.

A careful review of these and other factors will prepare a foundation upon which can be erected a logical and co-ordinated plan of action that will result ultimately in increased consumption of steel castings.

Advertising and merchandising are not miracle workers. They cannot magically transform a steel casting into an article of commerce that waiting millions will rush out to buy. But when properly directed they can mold favorable public opinion and stimulate business.

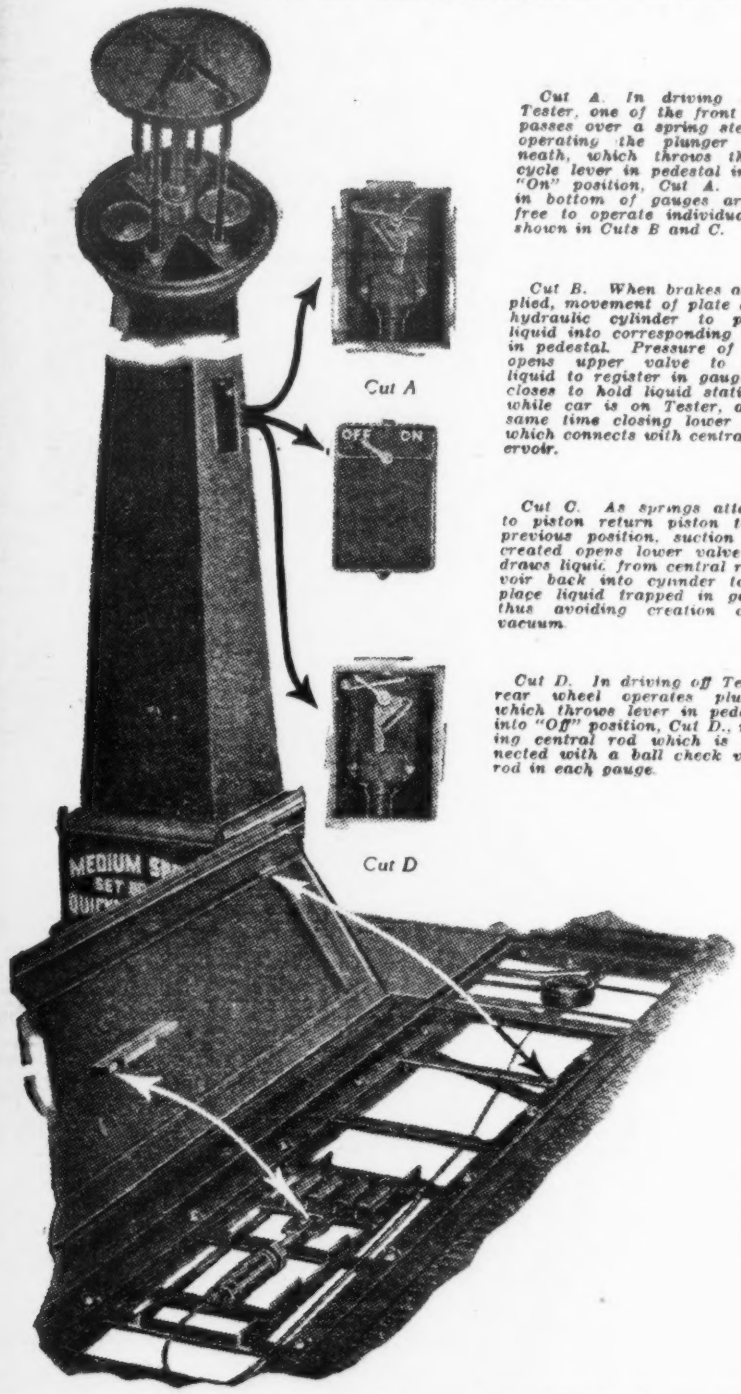
But instead of rushing into print it is desirable to examine the existing situation and then fit the forces of advertising to the job to be done.

If it were possible to secure an unprejudiced statement from castings users I think there is little doubt that the consensus of opinion would be that steel castings today are of higher quality, better finish, possess higher physical qualities and are altogether far more satisfactory than any which it was possible to obtain ten years ago.

(To Be Continued)

Equipment - - - Development

Weaver Automatic Brake Tester

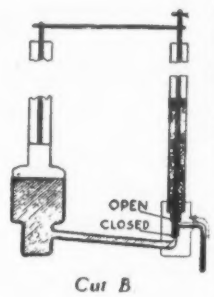


Cut A. In driving on the Tester, one of the front wheels passes over a spring steel bar, operating the plunger underneath, which throws the two cycle lever in pedestal into the "On" position, Cut A. Valves in bottom of gauges are now free to operate individually as shown in Cuts B and C.

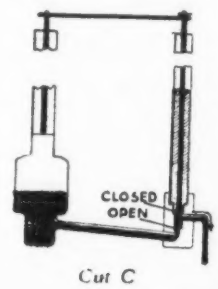
Cut B. When brakes are applied, movement of plate causes hydraulic cylinder to pump liquid into corresponding gauge in pedestal. Pressure of liquid opens upper valve to allow liquid to register in gauge and closes to hold liquid stationary while car is on Tester, at the same time closing lower valve which connects with central reservoir.

Cut C. As springs attached to piston return piston to its previous position, suction thus created opens lower valve and draws liquid from central reservoir back into cylinder to replace liquid trapped in gauge, thus avoiding creation of a vacuum.

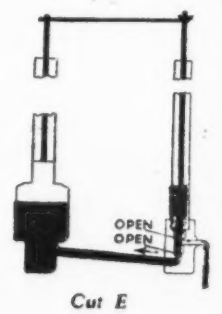
Cut D. In driving off Tester, rear wheel operates plunger which throws lever in pedestal into "Off" position, Cut D., raising central rod which is connected with a ball check valve rod in each gauge.



Cut B



Cut C



Cut E

Cut E. The simultaneous raising of the ball check valve rods as the car leaves the tester opens both upper and lower valves in each gauge, allowing the liquid to drain into the central reservoir, insuring the same zero reading in each gauge.

THE WEAVER automatic brake tester, manufactured by the Weaver Manufacturing Company, Springfield, Mo., is really a horizontal scale, which weighs and registers the braking effort of each brake. By referring to the cuts accompanying this, the reader will readily get the idea of the method of operation

Meet the Chief Engineers

TO acquaint its readers with the important, but unsung, members of the automotive fraternity—the engineers who design and build the nation's cars—Automotive Daily News is publishing a series of brief biographies of the chief engineers of companies producing automobiles, automotive equipment, parts and accessories. These biographies will cover the training and experience of leading engineers and their outstanding contributions to the progress of our industry.

HARRY BALDWIN DODGE was born at New Lyme, Ashtabula county, O., January 25, 1881. The name Dodge has a sweet savor for those Ashtabula county people, and they have within its precincts the village of Dodgeville, next door neighbor to the town the young man chose for his birthplace.

In school, Dodge proved an apt student and in due season, was accredited from the New Lyme institute, a semi-private high school, to New York University, where he took courses in mechanical engineering. In athletics he majored in football and baseball, and took membership in Delta Upsilon, Greek letter fraternity.

After completing his work at New York University, Dodge spent seven years with the Studebaker Engineering Department at the South Bend, Ind., plant; three years with the Columbus Buggy Company, Columbus, O.; three years with Seagrave Company, manufacturers of fire fighting apparatus at Columbus, and is now chief engineer of the Four-Wheel Drive Auto Company, Clintonville, Wis. Here the initials H. B. D. are a familiar sight on blue prints, not only for conventional models of FWD trucks, but for adaptations to special uses.

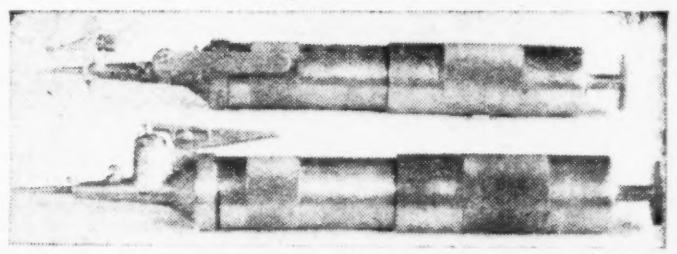
One of his latest achievements is the design of a front-wheel drive, low bed, four-wheel truck for inter-building hauling of material at industrial plants.

W. A. Olen, president, in his annual report, made as of January 27, 1920, said in part: " . . . he has made forty-two changes in the truck, changes that either reduce the cost of manufacturing it or increase its usefulness; also some eighteen new types of equipment have been worked out on our chassis; fourteen other improvements are in the experimental stage."

Since that date many of these "fourteen other experiments" have become working facts; some of them were new FWD models, one a six-wheeler, another an earth-borer unit; a third a fire department truck for New York city.

He has also made a fundamental change in axle assemblies, and has improved the center differential. A power winch must be credited to Mr. Dodge. During his regime of ten constructive years, the Four-Wheel Drive Auto Company's Engineering Department has come to a national recognition.

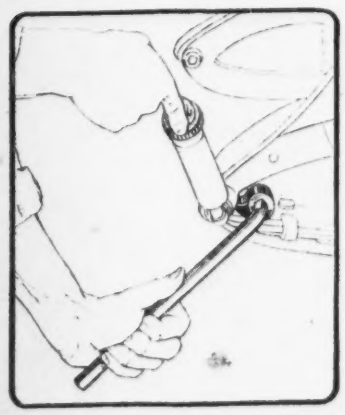
Striping and Decorating Device



John W. J. Ackerman of Detroit is placing on the market a new device designed for striping and decorating. This device applies a thick fillet of viscous paint or lacquer, that stands off, when dry, either flat or semi-circular in form, which is consequently more resistive to wear and will last even the life of the car. Many other decorative uses are made possible with this instrument. Hand-painted art-cane, lattice and trelliswork, or any original design that permits the guiding of the device along a straight-edge or templet may be executed, also for interior ornamentation, instead of the conventional wooden friezes installed on most of the cars, whether low priced or expensive. Large lettering is being outlined, furniture decorated in this manner with embossed fillets. The improved attractiveness may be judged by comparing a plain letterhead with a colored and embossed one.

A booklet describing this novel method of ornamentation, giving instructions for the use of the instrument, information, designs, illustrations of actual work, etc., is supplied with the device. This booklet, entitled "Plastic Relief Striping and Decorating on Coachwork," is just off the press; it is of interest to anybody connected with the automobile trade and its maintenance departments.

Ammco Spring Bolt Jimmy



This spring bolt jimmy, manufactured by the Automotive Maintenance Machinery Company of Chicago, Ill., is designed to be slipped between the front spring and the car frame, back of the spring bolt. A momentary pull on the jimmy takes the car weight off the bolt and grease is permitted to flow around the entire bolt. The claw head of the spring bolt jimmy is quickly and easily removable by hand and can be placed on the lever in any convenient position.

NEW DEVICE OPENS DOOR WHEN APPROACHE

THE General Electric Company recently demonstrated an automatic door-opener by means of which, without conscious human effort, a door can be made to open swiftly and silently—and, what is more, to close in the same manner. This device was exhibited for the first time at the convention of the Railway Supply Manufacturers' Association, June 18 to 25, in Atlantic City.

A ray of light focused on a photo-electric tube passes in front of the door. When this ray is interrupted it sets a hydraulic door-opener to work, through the agency of a photo-electric relay. The tube and light are placed several feet from the door and, as a person approaches, his body interrupts the light ray directed at the tube.

The current, hardly great enough to be dignified by the name, is amplified through three larger vacuum tubes, the last a power tube. It then sets in motion a small motor which operates the hydraulic device, thus actually opening the door. A lever, comparable to those found on ordinary door checks, forces the door open. A suitable time then elapses before the door closes. When the ray of light is again focused on the tube, the device is again ready for operation. The length of time during which the door is held open is variable by adjusting the control.

H. J. HINDE RESIGNS PART OF TOLEDO MACHINE DUTIES

Toledo, O., June 26.—Henry J. Hinde, president and general manager of the Toledo Machine and Tool Company, has resigned as general manager of the company, due to a long illness during the winter. He retains his post as president. The directors appointed Charles W. Greening, secretary-treasurer, to the vacant post, which he will hold in addition to his previous one.

Trailers Aid in Fuel Delivery

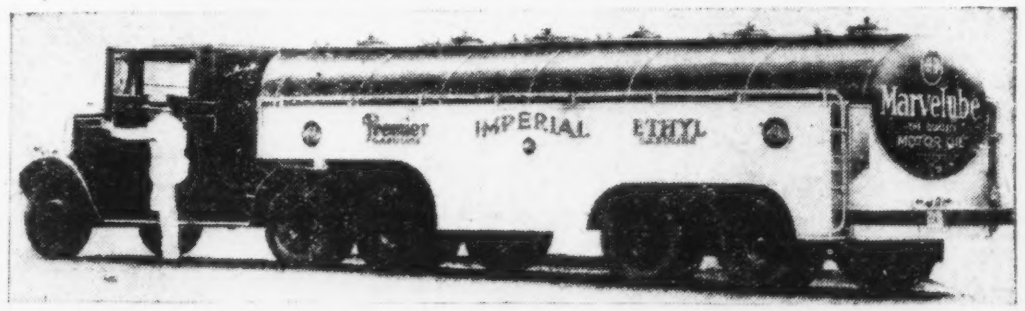


ILLUSTRATION shows a tandem-axle semi-trailer with 2,500-Imperial-gallon tank, which is 3,100 United States gallons, three of such units being used by the Imperial Oil Company, in Toronto, for service-station delivery of gasoline. The tractor is a Leyland six-wheeler, the trailer a Trailmobile tandem axle semi, and the tank was made by a tank builder of Toronto. The purpose of the dual axle semi was to get the increased gallonage and still keep the load per axle down below Canadian limits.

On some of the tandem-axle units a tire mileage of 60,000 miles has been obtained, due to the fact that the tandem axle reduces road shocks and because the wheels are held in alignment. Made by Trailmobile Company, Cincinnati, O.

Factories Are Always Buying

JULY 19
Factory Equipment Issue . . .

IT'S like food to a man. He's just got to have it. Whether they buy a lot or a little, they won't buy materials, machines and supplies—unless they are familiar with them and kept reminded of them.

MAKE them more familiar with yours. Tell your sales story to all important automotive manufacturers in the special Factory Issue, July 19.

THAT issue will be read by engineers, production men, shop superintendents, purchasing agents, and others who have any influence or power in the purchase of all things a plant needs.

No Rate Increase

2500 Extra Distribution

PENETRATE FACTORIES THIS WAY

OUR regular issues are read thoroughly, as indicated by the letters below. Imagine the genuine interest factory men will take in the important news and features that will appear in the July 19th issue.

"Automotive Daily News is passed around to all the Department Heads here at the factory. . . ."—*From The Stewart Motor Corp., Buffalo, N. Y.*

"In the case of the Automotive Daily News, because of its being a daily publication moving rather swiftly, we have found it advisable to have two company subscriptions to your publication. These two company subscriptions are routed to approximately thirty men. . . ."—*From The Olds Motor Works, Lansing, Mich.*

Automotive Daily News

H. A. TARANTOUS, *Bus. Mgr.* GRAYBAR BUILDING, NEW YORK CITY

CHICAGO OFFICE
Willard R. Cotton, Mgr.
333 No. Michigan Ave.
Chicago, Ill.

DETROIT OFFICE
Geo. M. Slocum, Mgr.
Fisher Building
Detroit, Mich.

EASTERN OFFICE
J. Edward Schipper, Mgr.
Graybar Building
New York City

BOSTON OFFICE
Metz B. Hayes, Mgr.
Little Building
Boston, Mass.

PACIFIC COAST
Blanchard, Nichols & Coleman
Am. Nat. Bank Building
San Francisco, Cal.